TRX-Manager (en)

Welcome to TRX-Manager V5 !

Welcome to TRX-Manager, an interactive software for HAM Radio Operators!

TRX-manager supports almost all the functions of more than 130 commercial transceivers as well as many accessories (rotators, amplifiers, antennas, keyers, wattmeters...) fully integrated in a comprehensive package for Radio Amateurs. TRX-Manager implements all these functions in conjunction with very fast monitoring and easier, more effective SW Listening, DX Spotting, Logging, Award tracking, Satellite, Rotator control and much more... In addition it can even operate simultaneously with several other programs including PDA's LOGic logging program. A control of a remote HF station by packet, Internet or a LAN is also provided along with many other original features...

If you are impatient to use the program, please see first:

- Features map
- Getting started
- On line-help

But please take time to learn more about all the TRX-Manager's features:

Main Transceiver

- Large digital display of the transmitted and received frequencies
- Animated VFO knob
- S-meter with memory
- Joystick control
- Easy and quick operation in split and QSX,
- Automatic mode and filter switching
- Extended control (if supported): Volume, DSP, Keyer...
- Transverter option
- Remote control of a rig via Packet or Telnet (standard or real)
- Remote control using a Web Server
- Memory channels management
- Graphic band scope for band activity checking

Advanced functions,

- Keyboard shortcuts
- Compact and comprehensive display, DX Bar
- Control of up to 3 Sub-Transceivers
- Programmable Band Decoder (LPT or COM Port)
- Support for SO4R (Single Operator Four Radios) operation
- PTT Switching using an external line
- Quick Memories
- Programmable Band Plan
- Drag and drop of frequencies between windows
- OLE Link, compatibility with LOGic, Swisslog
- High precision S-Meter
- Macro commands
- Synchro for SteppIR beam, ACOM 2000 & ACOM 600S amplifiers, third party program and other controllers via RS-232,
- Linear-Reminder for manual linear amplifier (or antenna tuner)
- Support for CW Skimmer
- Support for digital Wattmeters
- TRX-Pan a Spectrum Analyser for SDR
- Digital Modes: Interface with Fldigi, MMVARI Engine embedded

Short wave listening

- Data base for Short Wave Listening

- Automatic identification of stations
- Sound Recorder

DXing

- Web Cluster interface (Internet)
- Data terminal (Packet Telnet)
- DX Cluster interface, sound announcement
- DX Map (Plot spots & NCDXF Beacons), interface with DX Atlas and Google Earth
- HF Propagation predictor
- Automatic DX Tracking, Black lists
- Rotator control
- Satellite Interface
- CW Interface via Serial or LPT Port, Winkey or CAT Interface

Intuitive logging, Awards tracking

- Log-book with advanced Import/Export utility
- Logbook's Explorer
- Comprehensive DXCC information
- Prefix database editing (customization, 11m possible)
- Real-time tracking of the DXCC IOTA WAZ WAS and VUCC awards
- Support for the DDFM/DPF awards
- Support possible for other awards
- Advanced searches using the SQL language
- QSL labels printing
- Compatibility with HamQTH QRZ Callbook and HAMCall CD-Roms or Internet database
- Automatic lookup of the FCC License records
- Callsign lookup from various Internet websites
- Contest mode
  Support for the LogBook of The World
- Link with LOGic

Graphic interface

- Multi language interface (French/English/Spanish/Swedish/German/Polish)
- Configurable Tool Bar (Office type) and Sessions
- Comprehensive on line help
- Internet browser, Quick EMailer
- Screen saver and desktop background

Specifications

The software runs under any 32 bits or 64 bits version of Windows (Except NT3.51) and supports the following transceivers defined as Main transceiver:

YAESU
FT-212 FT-412 FT-736 FT-450 FT-747 FT-757GX FT-757GXII FT-767GX FT-817 FT-840 FT-847 FT-857 FT-890 FT-897 FT-900 FT-920 FT-980 FT-990 FT-991 FT1000MP /MKV FT1000D FT-990 and FT-1000 ROM 1.2 FRG-100 FT-100 FRG-9600 VR-5000 FTDX-1200 FT-2000 FTDX3000 FTDX5000 FTDX9000

KENWOOD
R-5000 TS-440 TS-450 TS-480 TS-570 TS-590S TS-590SG TS-680 TS-690 TS-711 TS-790 TS-811 TS-850 TS-870 TS-940 TS-950 TS-990 TS-2000

ICOM
IC-703 IC-706MKII IC-706MKIIG IC-718 IC-725/6 IC-735 IC-746 IC-746PRO IC-7400 IC-7410 IC-751 IC-751A IC-756 IC-756PRO/PRO2/PRO3 IC-765 IC-271 IC-471 IC-275 IC-475 IC-775 IC-781 IC-820/821 IC-910 IC-9100 IC-970 IC-R75 IC-R7000 IC-R7100 IC-R8500 IC-R9000 IC-7000 IC-7100 IC-7200 IC-7600 IC-7700 IC-7800/7850/7851 IC-PCR1000

TENTEC
Omni-VI Omni-VI+ Omni-VII RX320 Argonaut-V Jupiter Eagle Argonaut-VI

JST
NRD-535 NRD-545 JST-145 JST-245

ALINCO
DX-77

ELECRAFT
K2 K3 KX3

Other brands
CODAN NGT RACAL 6790
OMNI-RIG's Library (by VE3NEA** See List of supported rigs**)
JUMA TRX2
ACOM 600S, ACOM 2000

Only the following Transceivers are supported as **Sub-Transceivers**:

All ICOM, Kenwood and Elecraft transceivers, Yaesu FT-450 FT-736 FT-840 FT- 890 FT-900 FT-950 FT-990 F-1000D FT-1000MP FT-920 FT-817 FT-847 FT-857 FT-897 VR5000 FT-991 FTDX-1200 FT-2000 FTDX3000 FTDX5000 FTDX9000 FT-450 NRD535/545 RX320 ARGONAUT JUPITER ICPCR1000 CODAN RACAL OMNIRIG EAGLE

Please note some of the above functions do not run with all transceivers.

Distribution

TRX-Manager is not a free software. You may test TRX-Manager for a 30 days evaluation period to determine the compatibility with your system and the various elements of your station. Please check the license conditions before using and copying the software and see how to order.

An HAM Radio amateurs team has contributed in helping to test the software. I thank also GES (F6ELU), RADIO 33 (F5OLS), ICOM France (F6FOW) John KI4JPL (TenTec) Stan LZ1IU (ACOM) for the technical assistance brought to the implementation of the Yaesu, Kenwood TenTec ICOM ACOM transceivers/amplifiers.

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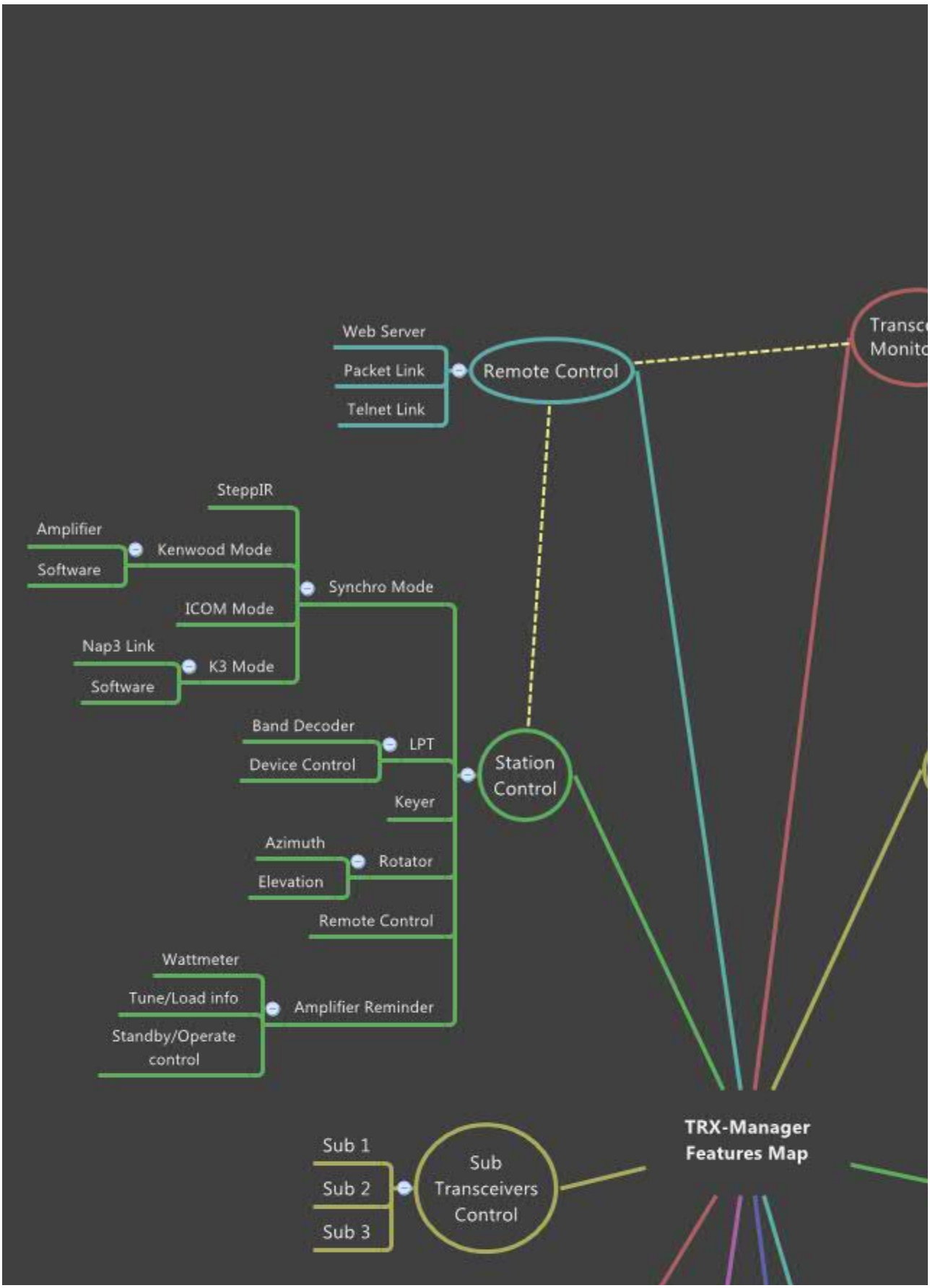
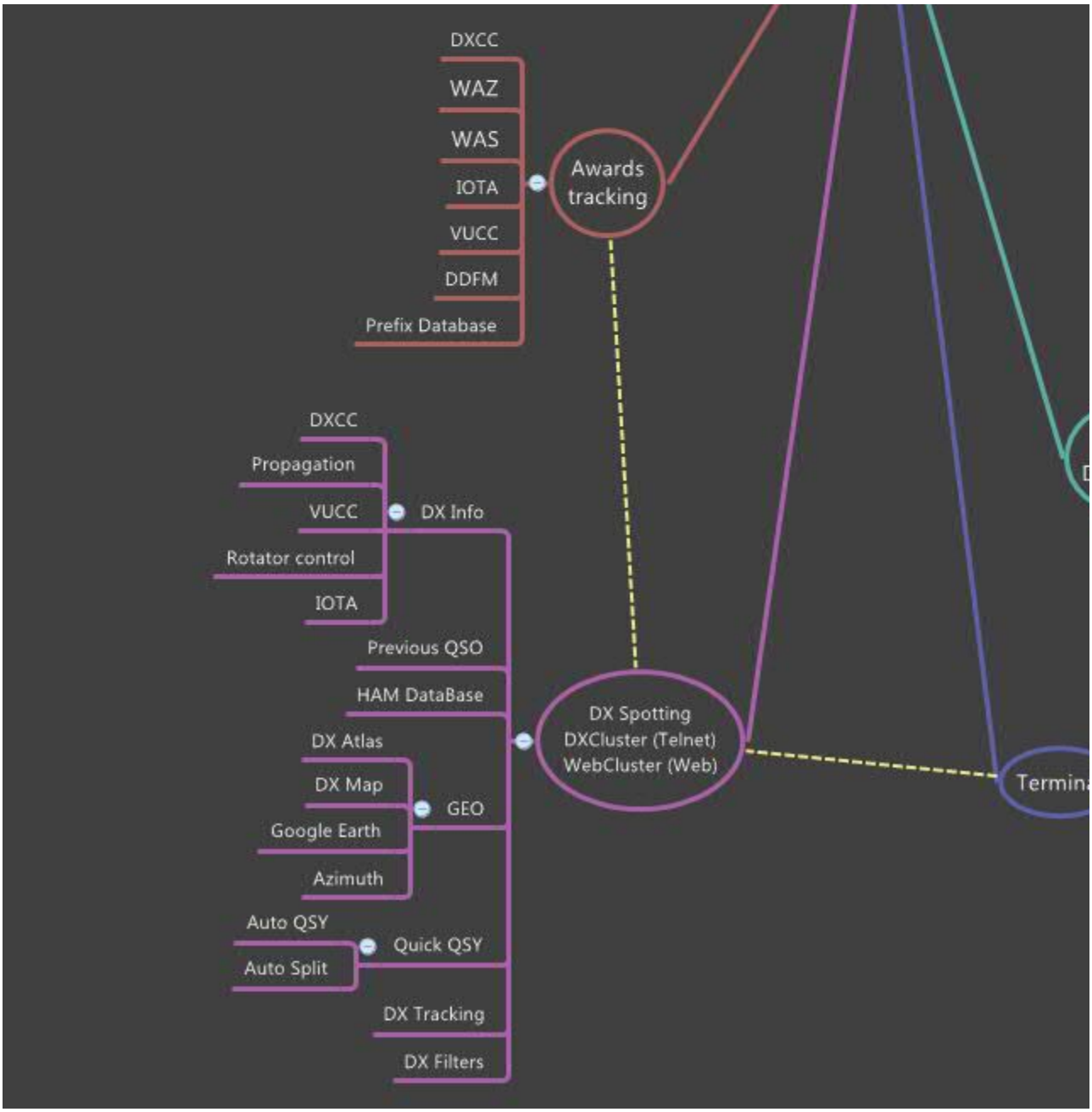
TRX-Manager: features map

This diagram shows the various functions grouped by main features.




DXCC
WAZ
WAS
IOTA
VUCC
DDFM
Prefix Database
Awards tracking
DXCC
Propagation
VUCC
DX Info
Rotator control
IOTA
Previous QSO
HAM DataBase
DX Atlas
DX Map
GEO
Google Earth
Azimuth
Auto QSY
Quick QSY
Auto Split
DX Tracking
DX Filters
DX Spotting
DXCluster (Telnet)
WebCluster (Web)

Getting help

TRX-manager features a very comprehensive help system. Most windows have a **help** button and many controls have **touch help**.

Index is the best approach to search for a specific information using known Keywords. If you don't find you may try the **Search** function.

You may also print any section or all the topic using the **Print** button.

See also

- Welcome to TRX-Manager V5
- Getting started
- Features map
- Versions history
- Troubleshooting
- How to order ?
- Support and update policy

Installation and use

Requirements

TRX-Manager requires:

- Probably a transceiver or a receiver!...
- A Personal Computer and any 32 bits or 64 bits version of Windows (except NT3.51), an X-VGA monitor (minimum)
- A free serial port for the radio interface or an USB/Serial adapter (Com 1-32 supported)
- Eventually an RS232/TTL Level converter (but most recent rigs include this converter)
- A Connection to the Internet (optional but recommended)

DBCS Systems

Sorry, but TRX-Manager is NOT compatible with any version of Windows using DBCS (China, Japan, Taiwan, Korea) and Windows NT3.51.

Disk space

The necessary disk space to install the software is about 50 Mb (it may depend on the software already installed). At least, 200 MB of free disk space are required to run the program.

RAM

Recommended minimal requirement is 124 MB (Windows 9.X). Much more RAM is required under XP and later. However, this is no more an issue with recent computers.

Display

The preference menu Software tab offers you a choice of suitable colors, font type and size.

The program is optimized for a **1024*768 / 32 bits color** display or more. You may have to adjust your Windows settings (size of title bars) if some dialogs are truncated.

RS 232/TTL interface

This § is of concern only with the older transceivers (before year 2000/2005) since all transceivers now include the RS232/TTL interface.

You need an RS232 interface to connect your transceiver to the RS232 port of your computer. While recent transceivers include such interface (in that case, you only need a cable between the radio and the computer), the others require an external device. The following types are recommended : **FIF232C** (Yaesu), **CT-62** (**FT-100**), **IF-232C** (Kenwood) or **IF-10** (**TS-440/940/50**), **CT-17** (ICOM) or the universal **LCU-3** distributed byPDA (USA) andWiMo (Germany). Other reasonably priced interfaces are available on the market.

Cable

Generally the cable between the computer and the interface (or the radio) is a straight wired serial data cable (RS232 DB9/DB9). Exceptions are: FT-847 (**null modem** cable), **FT-100** (**Yaesu CT-62** cable), SteppIR (special wiring) and JRC (special wiring).

RS 232/USB converters

While a com port on the mother card is always preferable, if your computer does not have a serial RS232 input, you need an RS232/USB converter. Make sure your converter supports RTS/DTR/CTS/CTS as required for CW/PTT keying/TX Interrupt... or by some protocols.

Once your RS232 converter is recognized by Windows, in order to set up TRX-Manager, you must determine the number assigned to the com port created by the driver. You have to go into the **Device Manager** and expand the Ports line to see the list (the com port number may be different depending on which USB device is connected to your computer). TRX-Manager supports com ports from #1 to #32. If a com port has been created outside that range, you can re-assign the com port number (between 1-32) from the device manager.

How to choose your "Serial to USB" Converter

USB to Serial converters built with **FTDI** chips are strongly recommended (http://www.ftdichip.com/); they are very reliable and provide very fast communications.

The cheap converters built with **PROLIFIC** chips (and all clones) are prone to malfunctions and slow communications with TRX-Manager.

A multi-ports PCI card (internal to the computer) is a very good solution which minimizes RFI and a cheaper alternative to 4 separate USB/Interface Cable.

See also Serial Port and USB

If you use the integrated USB interface of your transceiver, don't forget to power your transceiver before running TRX-Manager. If your interface is not powered, the USB interface does not work and can not be recognized by TRX-Manager.

Supported TNC

TRX-Manager supports TNCs with **TAPR** (KAM, PK232) or **TF** (TNC2S,TNC3S) PROM. Hostmode are not supported.

Supported rotator interface

TRX-Manager supports **SARTEK, Orion (PA PX)**, **HyGain**, **Prosistel**, **Yaesu/Kenpro**, **EA4TX's ARSWin** , **WinRotor, Green Heron, AlfaSPID, MicroHAM** and **KCT** rotator interfaces. It is possible to control up to two rotators.

See also Rotator control

Parallel port

The TRX-Manager's band decoder emulates a Yaesu radio on pins 2-5 of a parallel port (other band data formats are possible). Parallel port can also be used for CW keying and is programmable for the control of an external device (such as amplifier...) or for SO4R information.

Windows 8/10/64bits (and later)

Under recent versions of Windows 64 bits, the LPT driver (third party) does not work. Please note, until now, that no fix is available and that a such fix is unlikely. Supporting LPT ports is more and more difficult under Windows.

Other devices

TRX-Manager supports **SteppIR** beams (Synchro), **Alpha** amplifiers (TRX-Synchro), ACOM amplifiers and Winkey CW Interface.

Digital Vector Wattmeter LP-100 and LP-100A ALPHAPOWER 4500 series Elecraft W2 are supported.

Installing TRX-Manager

TRX-Manager is installed by a program which copies the required files and registers the system resources.

Preparing your system for installation

Under XP, Vista, W7, W8, W10

You must have administrator rigths to install TRX-Manager. Installing TRX-Manager with restricted rights is not possible.

Installing TRX-Manager

Licensed version

Run your personal file: **SETUP_TRX5_DYYYYMMDD_IDXXXX.EXE** as downloaded after your payment**.** Once installed, TRX-Manager must be registered.

Demo version (from a downloaded file)

You need to run the auto extractable file (trmde5.exe) in order to install the program.

Installation options

If the installation software asks you to keep the files present on your system : Please press first YES or (OUI). However, if the program does not run properly, uninstall and press NO the next time you install it.

It is also possible that Setup asks you to power off your computer: this is normal and necessary for the update of certain shared resources; once the computer is powered on again you may have to run Setup in order to finish the installation.

Folders structure used by TRX-Manager ("Use AppData" option)

Prior to CD Version 4.5.5 TRX-Manager used the **Program Files** folder as the default folder; this old scheme does not comply with the current specifications of Windows, especially if UAC is set to ON.

TRX-Manager V5.X uses:

- **..\AppData\Local\TRX-Manager** as the default folder for all personal files (you may backup this folder for reinstallation)
- **..\ProgramData\TRX-Manager** as the default folder for utility files (you don't need to backup this folder)

Tip

You may browse **AppData\Local\TRX-Manager** from the Parameters\Browse submenu. TRX-Tools.exe (distributed with TRX-Manager) lets you browse all the folders that TRX-Manager uses including the Backup folder.

Note

If you own an older installation (CD prior to 5.0), TRX-Manager switches using the new folder structure. Please note:

TRX-Manager will automatically copy temporary and utility files located in the TRX-manager's main folder to the new \Misc subfolders (located in ProgramData\TRX-manager and in AppData\Local\TRX-Manager),

BUT TRX-Manager does NOT move your personal files (i.e files created using the Open/Save buttons, your LOG or SWL database, your MEM files and generally all files located in the TRX-Manager's subfolders...). Consequently, almost all files located in the TRX-Manager's subfolders will NOT be moved and will stay in the Program files\TRX-manager's folder and TRX-manager continues to write Program Files!. It is up to you (but strongly recommended) to transfer these files to the new location (AppData\Local\TRX-manager's subfolders) and to configure TRX-Manager accordingly.

Running TRX-Manager under VISTA/Win7/Win8/Win10

TRX-Manager is compatible with Vista/Win7/Win8/Win10: so please **DO NOT use WIN98 or WINXP compatibility** modes. In the Compatibility tab for TRX-Manager.exe, you have to keep this option NOT checked. The "Compatiblity" mode can introduce unpredictable issues...

See also: Getting started

Installing an update

To install a TRX-Manager update, you must have administrator privileges.

Installing the updates is automated : after you download the **trmup5xx.exe** file from the TRX-Manager's Whatsnew page, you run the patch file. Its setup will find the installation folders, checks for your registration and updates the necessary files.

System upgrade and registration

If you upgrade your system (e.g W7/8 to W10), your registration will be deleted by Windows. Please reinstall TRX-manager as indicated above. You don't need to uninstall TRX-manager! This process will preserves all your personal files and settings. After your Registration is completed and confirmed, you can update TRX-manager again.

Installing an upgrade (new version)

If you need to uninstall and reinstall the program, or to install a new copy of the program, the following procedures are recommended:

- Do not delete any file or folder manually!
- Backup you most important files such as Logbook (*.mdb), memory files (.mem), short wave database files (.mdb). It is recommended you backup all the TRX-Manager's **subfolders** located in **AppData\Local\TRX-Manager**,
- Install the new version on top of the existing version (same folder)
- Register the new version

Installing TRX-manager on a new computer

From the old computer:

- Make sure you don't use the program files folder to save your data (logbook...) (see folders structure above)
- Save your parameters ,
- Make a copy of the **(username\app data\local\) TRX-Manager** folder

From the new computer

- Make sure this new computer uses the same folders structure than the old one (same username)
- Install TRX-Manager on the new computer
- Exit TRX-Manager
- Copy the **(user\app data\local\) TRX-Manager** from the old computer to the new computer (this may erase some of the data created after the recent installation)
- Double click the **TRX-Manager.reg** file located in the backup folder to restore your parameters (see Instructions and cautions)
- Running TRX-Tools, set **ALL DEVICES = NONE**. This process avoids any crash at startup of TRX-Manager due to a different enumeration of the com ports
- Run TRX-Manager, register your copy, restart.
- Now you can open the Parameters/Setup dialog to configure all your devices according to the new enumeration of the com ports...

Copying system or executable files

For a reinstallation, the installation procedure must be followed completely. Copying any EXE/DLL/OCX files or copying the hard disk (Drive Copy) or the system files from one computer to the other can make the application unstable and may prevent any further installation.

Never copy the content of the main Program Files\TRX-Manager's folder (with EXE/DLL/OCX files) on another computer since this can make the installation unstable.

Running TRX-Manager on Linux, Mac...

TRX-Manager is NOT compatible with Linux, Mac.. however some tests have been successfull with Windows emulators for MAC or Linux.

For this purpose, without opening TRX-Manager and using **TRX-Tools.exe**, it is recommended you set the following options from the **Compatibilty** menu before running TRX-Manager:

- **Windows emulator** checked: TRX-Manager avoids using the Internet Explorer resources; some other functions may be disabled or limited.

- **OLE Enabled** by default. Unchecked if necessary (e.g repetitive crash at Startup or during a session). If this option is unchecked the OLE Link is disabled.

Please understand that installing and running all the functions of TRX-Manager can not be guaranteed - and in any cases - not supported.

Getting started

Please run **TRX-Manager** from the Start menu.

Your first session (Setup)

For your first session the software prompts you to choose the **Language**, the IARU Region and pops up the **Setup** dialog box.

TIP

For this first session, please KEEP THE DEFAULT settings unless you understand exactly your changes. The only exception is DTR which may be required to power on your RS232/TTL interface (if used).

Related Topics

- Overview and Settings
- Features map
- Specifications ICOM, Yaesu, Kenwood, Elecraft, TenTec, Alinco, JST, Others

Usually, you only need to choose your **transceiver** under **TRX1,** the desired **serial port** and (if available) the **Speed**. In some cases (if you note a communication problem) you will have to check **DTR** or **RTS Enabled** (especially if your interface is powered on by the computer).

Handshaking will be automatically set by the program if you select some Kenwood (speed above 4800) or TenTec. Otherwise, this option is not required and may lock up the program at startup if your transceiver does not support handshaking (in fact this option only exists for a compatibility with some serial servers). See also Troubleshooting .

If you use an ICOM, please fill in its **address**, fill in the **number of memories** and check **C00** if the channels are numbered starting from #00

Initially, you DO NOT need to fill in the PTT or TRX-Interrupt frames (please let **TX Interrupt NOT checked**) to make the software operating. In the same way, the IP Port option which provides a remote control of the com port but requires a good knowledge of the program remains unchecked.

Later on, you can add an other Transceiver under **TRX2** to **TRX4**, choose your Preferences : language, colors, filters and other miscellaneous settings (Terminal, Rotator, CW, Synchro ,SO4R)...

IMPORTANT

Make sure of your settings (especially Transceiver, Speed and Serial Port) are correct. From Setup, click the summary button to see the list of the selected com ports and check for the duplicate selections.

Running the Monitoring

To check if the software correctly communicates with your transceiver, close the Setup window and activate the Monitoring module using the **Transceiver/Monitoring** sub menu or the corresponding button (F6). With some Transceivers, you must press the CAT button (main tool-bar or Transceiver sub menu) to engage computer control.

If necessary, you can also access more controls from the **Levels window** (**Transceiver/Levels** sub menu).

Internet

TRX-Manager uses Internet Explorer's settings. Please configure you firewall to allow TRX-Manager accessing to the Internet or your personal network.

User manual

Now, please read some of the help topics... for this purpose, a printable help is available for download from the TRX-Manager's website . Reading the sections related to the graphical interface and windows layout is particularly recommended.

Some VERY frequently asked questions

1) TRX-manager offers a great number of programmable automatisms: some of them can be disconcerting... One of the most frequently asked questions is related to the mode and filter settings (including DSP or EDSP, Slope Tuning, Filters).

Frequently asked question:

The program is buggy ! It sends commands (mode or filter, DSP, Slope changes...) to the transceiver...

Answer :

*TRX-Manager provides an **auto-mode** function: the mode change is done according to a programmable band plan. Please see the section related to the modes and filters (including DSP, PBT...) and to the band plan for understanding the logic of the program and set auto-mode **OFF** (Monitoring) or from the **Preferences/Transceiver/Band Plan** tab if you don't like this function.*

2) An other frequent question is related to the configuration of the screen at startup...

Frequently asked question:

How to do so that the windows which have been opened during a session open automatically at the next session?

Answer:

*TRX-manager can save the position and the size of each window from one session to another. To activate this feature you must check the **Previous session** option under the **Software** tab of the **Preferences** . **This option should be checked only after you make sure the program correctly communicates with all your devices in order to avoid a repetitive look-up at startup...***

Activating the Previous session option

3) About Time and Date

Frequently asked question:

When in edit mode (Normal QSO mode) the Log time is 24 hour Zulu format but when switching to List mode the time is displayed in 12 hour am/pm mode?

Answer:

*TRX-Manager follows Windows **Regional Settings** for Time, date, etc... See also Graphical interface and preferences.*

Use with old computers

TRX-Manager is still compatible with old computers running Windows 95SP1/98 and Pentium II/III 500M/1GHz class processors. On these computers, you may notice that the program seems to slow down the PC... This is possible because TRX-Manager is a real-time control program: it constantly exchanges data with the devices under control and does many

computations... and represents a charge for the processor. The communication loop may also slow down the use of other software. It is therefore better to minimize the software as a task bar's icon while using other software since the CAT loop pauses while you minimize the main window.

Please read also the section related to the use of the TRX-Manager's OLE interface with **LOGic** to get more information about this particular case.

However, with recent computers running true multi-tasks OS like Windows XP/Vista/Win7/8, this drawback is generally not perceptible: TRX-Manager uses less than 2% of CPU time.

System Resources

TRX-Manager implements a large number of graphic functions in each independent module. If necessary, please only open the modules which you need in order to free up the resources for other programs.

Graphical interface and preferences

The program allows choosing various preferences from the Preference sub menu. Each Tab of the Preferences dialog boxes is related to a particular module. Please click the help button for getting help about the displayed tab. Below, only general settings are described.

Related Topics

- Windows layout
- Database Grids
- Saving your parameters
- Installation, reinstallation

Interface overview

The software uses the **Multi Documents Interface** system : each window is displayed inside the same container. You can minimize or resize most **windows** in order to adjust your interface as you want.

The program keeps in registry window's position and size**.** You may also **automatically recall the last session**.

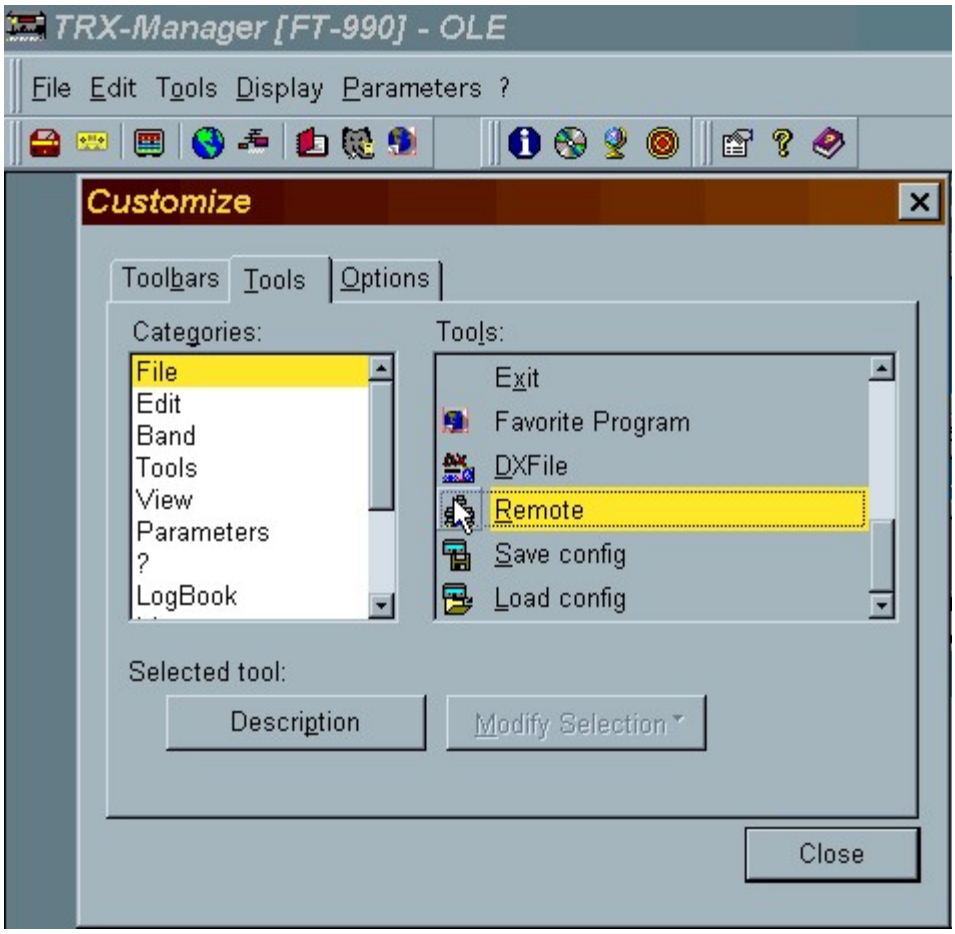
You may quickly re-open the last screen's configuration from the **File/Previous session** submenu. You also may automate this procedure by checking the **Previous session** option (**Preferences** , under **Software**).

Related Topic

- Windows layout.

Customizing the main tool bar

The user may customize the main tool bar: a right click on the tool bar or the **Display/Toolbars...** menu opens the editor (**Customize**). It is possible to remove, to move (...) any button, and to set **Large icons.** Moving, adding or removing of the buttons are done by **drag and drop** when the customization window is open.



Custom buttons

It is possible to associate up to five buttons with any program of your choice. Please open the **Preference** submenu, under **software**, to associate a button with a program. TRX-Manager extracts the icon so it appears on the tool bar.

Please note that the corresponding program opens from its directory. To remove a program, first press the **delete** button then the button to delete.

If the associated icon is not properly extracted (like with MS-DOS programs), please copy the desired icon (16 X 16 pixels) into the TRX-Manager's directory and rename it as **PROGi.BMP** (i= 0 to 4).

Personalized Menus (Office 2000 type)

By default, TRX-Manager shows all submenus (menu commands).

TRX-Manager's**Personalized Menus** feature enables to focus on just the commands you need and use. To enable the **Personalized menus**, please open the **Customize** dialog box (as indicated above) and check**Menus show recently...** under **Options**. Once this option is checked, the menus will contain those primary commands that are used some 95 percent of the time; infrequently used commands, known as secondary, are not displayed, resulting in a simplified user interface. At the bottom of each menu is a button that expands the menus to the full selection of choices so you can still easily find all menu commands. As you access menu commands, those commands are "promoted," while unused menu commands are not displayed. Over time the user interface will be tailored to your needs. If you need to reset the usage patterns back to the original settings, please open the **Customize** dialog box (**Display/Toolbars** submenu) and under **Options** , click**Reset my usage data**.

Customizing the modules

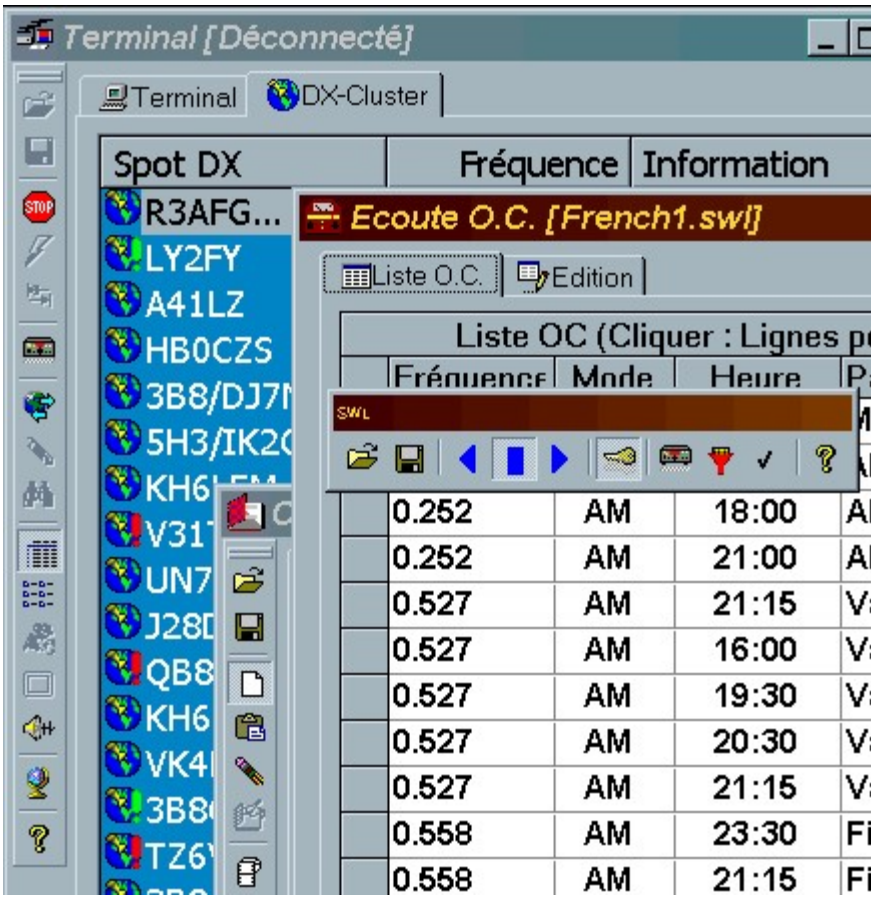
Under the **software** tab (**Preferences**) you may set different **options** to customize the **colors**, the **font** for some labels or lists and how the buttons are displayed for the different modules.

The **Active colors** check box determines whether the picture displayed for each toolbar's button is changed to grayscale when the mouse pointer is not over the button.

Active Color OFF

Active Color ON

The **Large Icons** check box determines whether the pictures displayed for buttons are enlarged. Please note these options have no effect on the main toolbar which is fully customizable (see above). Any toolbar can be docked in any one of the four sides of its container, as well as be made to float. Hold the mouse and drag the toolbar where you want...



You may choose to display the icons related to each tab by checking the **Icons** check box (**Preferences** under **Software**). Note, on some PC, the size of icons may be too large and cause a wrong display.

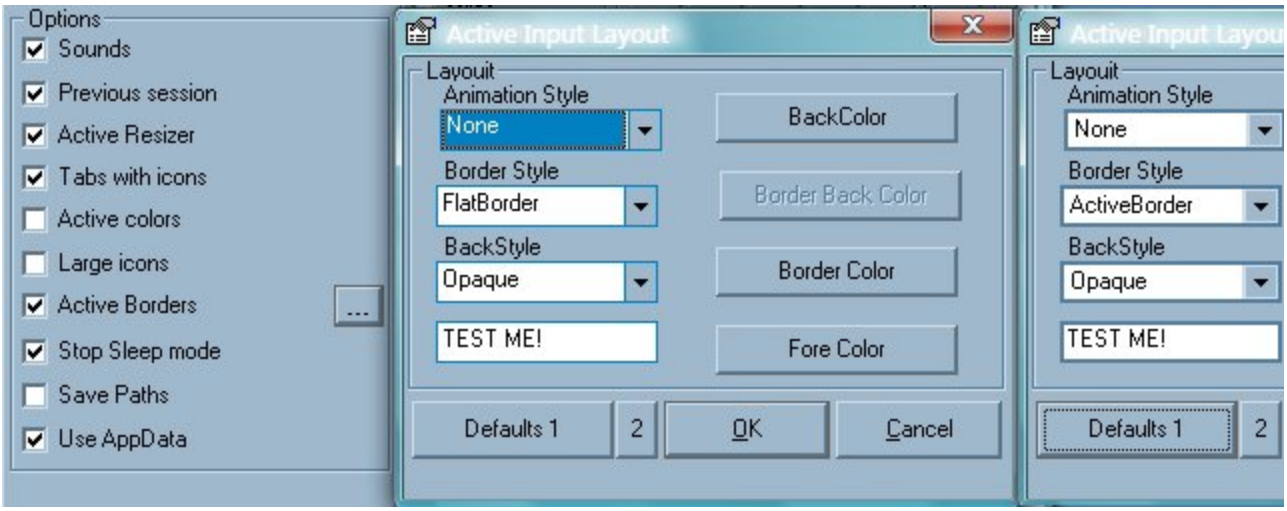
The **Active Resizer** check box resizes most windows. It maintains the same proportions and locations of controls relative to one another. This option optimizes the available space but slows down the loading of the program.

The **Active Borders** check box gives a raised 3-D border that appears only when the mouse pointer is over some controls:

Active Border OFF

Active Border ON

By clicking the **follow up**button you can access more settings:



Setting time and geographical position

You have to set up the parameters for **Time** via the **Preferences** submenu under **Location** . By default, TRX-Manager uses the system time; the system time should be equal to the UTC time. If you prefer, or if the displayed UTC time is not correct, you also may use the local time with a convenient offset (PC-UTC).

Then you have to set **Longitude** and **Latitude** (sexagesimal format while East from Greenwhich and North from Equator are positive values) to get correct azimuths and distances.

Date and Time are displayed using the Windows regional settings.

Stop Sleep Mode

If **Stop Sleep mode** is checked, TRX-Manager prevents Windows from going into sleep mode and running a ScreenSaver. TRX-Manager does not really disable these functions but moves the mouse (by some pixels) to simulate an activity each 5 minutes (unless a real activity is detected). The corresponding mouse movement is not perceptible.

Language

You can choose your preference language for the interface : **French, English, Swedish Spanish German** or **Polish** from the **Preferences** sub menu under **Software.**

Help is tranlated in English and French only. **Spanish (F)** displays the French help and **Spanish (E)** displays the English help.

TRX-Manager itself is translated ~100% in English, ~99% in French and from 50% to 90% in other the languages. However, many error message may appear in English only and sometime in French. Since the software is conceived as a multi language software, with your help it is possible to quickly translate each label into any language (please contact the author). It is also possible to improve the various translations - thank you for your indulgence!

Distances

The distances can be displayed in Miles or Kilometers.

Regional settings (Windows)

Dates and **Times** are displayed according to the format defined for Windows : please set these preferences from the Windows's Regional Settings Panel (**Date** and **Time** property pages).

Using the period (.) as **decimal separator** is highly recommended! Please set this parameter from the **Numbers** property page.

Windows layout

TRX-manager features various functions relating to the windows.

Fonts and colors

The **Preference/Software** dialog allows setting the default colors and fonts for most windows.

It is recommended you choose a non proportional font for **Terminal**. A non proportional font is required for an accurate alignement of data in many modules of TRX-Manager. Courrier New is the default, but Consolas (available with all recent computers) gives the best results. A non proportional font can also be selected for **Lists**.

TRX-Manager uses Arial or MS Sans Serif by default as proportional font. Many windows provide a specific option to customize fonts, font sizes and/or the colors (Monitoring, Logbook, SW database...).

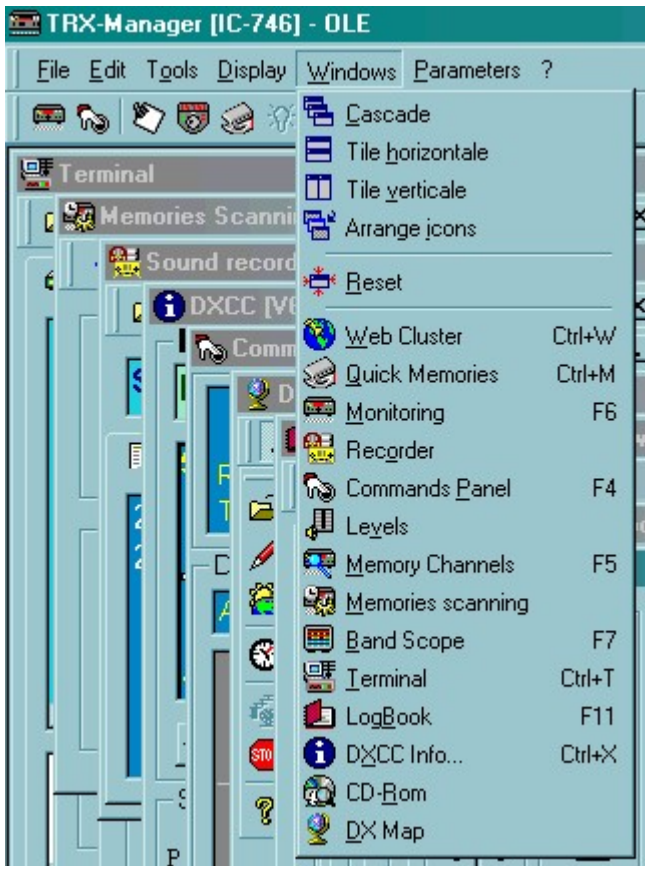
Position and size of the windows

All the windows can be laid out on the screen as you wish. Most windows can be minimized as icons in the lower display area but only a limited number of windows can be maximized (i.e. to occupy all of the screen). However, most windows can be resized with the mouse to adjust the size of the characters or the data.

Normalizing a window can be done by clicking its title bar.

How to locate the open windows?

The **Windows** menu lists the titles of all open or minimized windows. Just click on the title of the desired window. If the selected window is minimized, it will be normalized.



Reorganization of the windows

The **Windows** menu offers the standard Windows's functions:

Cascade : positions all the windows in cascading fashion. The windows are resized with their default size.
Tile horizontal : lays out the windows - one on top of the other.
Vertical mosaic : lays out the windows - one beside the others.
Arrange icons : the icons of the minimized windows are re-aligned.
Reset : the windows are re-initialized with their size by default without changing their position.

Note

The Tile Horizontal/Vertical menus resizes the windows to occupy the maximum area of the display. In practice, this function produces rather undesirable results.

Active resizing option

Some windows provide **active resizing:** Active Resizer maintains the same proportions and locations of controls relative to one another. The Active Resizer also dynamically adjusts the size of the fonts used in the controls, so the size of the text in a control remains proportional relative to the overall size of the control. This option optimizes the available space. This option is set from the **Preference** dialog box, under **Software**.

This option does not affect all the controls: for example, grids and listings are not affected. For those controls, you may have to adjust the size of the font manually (if available).

Saving the position of the windows, recalling a session

At the end of each session, the program saves the size and position of each window. This configuration is automatically recalled the next time you start TRX-Manager if the **previous session** option in (Preference/Software) is checked.

In addition, saving and recalling a particular session (i.e. position and sizes of each window) is possible from the **File** **Open /** **Save Session** sub menus. Sessions are saved as **.trx** files.

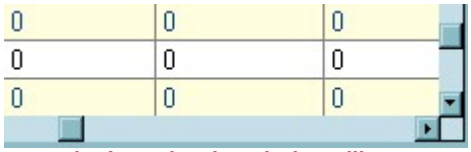
Database Grids

TRX-Manager uses configurable grids (Infragistics Data Widget 3 library) to display the database (SW List, LogBook, Prefix...). This section summarizes the common methods for the use and the configuration of these grids.

Manipulating and configuring the grids

Scrolling the database

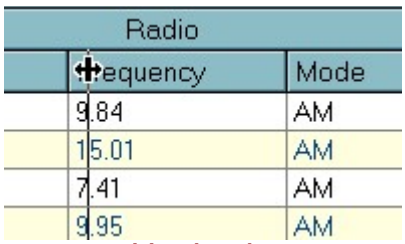
Scrolling the database is possible using the horizontal and vertical scrollbars.



horizontal and vertical scrollbars

Resizing the columns

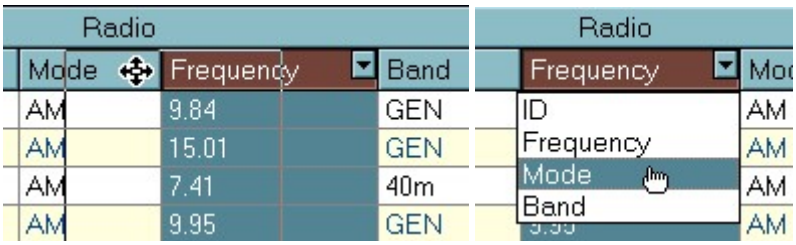
The columns may be resized using the mouse in the same way as with Windows's Explorer.



resizing the columns

Moving the columns

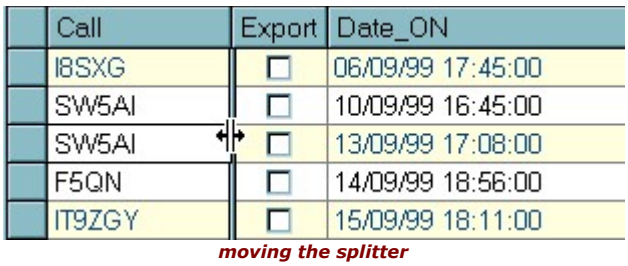
The columns are moveable by moving their header or from the drop down menu which appears in the header. SW Database is displayed by groups of data: groups may also be swapped.



moving or swapping the columns

Splitting the grid

Grids may be divided by moving the splitter. This provides horizontal scrolling while keeping a fixed section.



moving the splitter

Colours

Odd lines uses Windows default colours ; colour of even lines may be set from the **Preference** dialog under **Software**.

Saving a layout

Layout changes (position and width of the columns) may be saved by pressing the layout button . The layout is then saved as a **.grd** file having the same name as the corresponding database; this file will be recalled when opening the database.

> ***Example***
>
> *You are working under TRX-Log.mdb. When you press the layout button, TRX-Manager creates or updates the layout file TRX-Log.grd; this file will be recalled each time you open the TRX-Log.mdb database.*

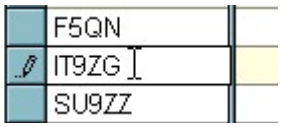
Editing the records, sorting

Selecting a record

Selecting a record is done by clicking any field of the corresponding line. This record becomes the current record.

Direct editing

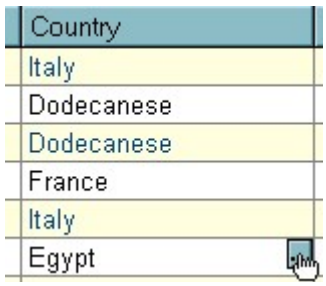
In some cases, records may be edited from the grid directly : a click on any other record validates the changes.



direct editing

Buttons

For some fields, a button appears when you click the field and provides various functions.



column button

Sorting

To sort a column, you have to select this column by selecting any record from this column or the header ; an action on and buttons provides sorting by ascending or descending values.

Navigation bar

The navigation bar provides additional functions :

navigation bar

: these buttons jump to the previous/next page/record in the database.

(**Update**) : validates the changes made from the Grid.

(**Cancel**) : Cancels the changes made from the Grid (before validation)..

(**Delete**) : Deletes the current record

(**Add Bookmark**) : Adds a bookmark for the current record

(**Clear All Bookmarks**) : Clears all stored bookmarks.

(**Go to Bookmark**) : Presents a list of all stored bookmarks :

(**Find**) : Invokes a Find dialog, allowing a search of the database. Select a field (**Column to search**), the search criteria (**Match**), the direction (**Up/Down**) and the value of the field (**Find**).

(**Find Previous Find Next**) : Searches backwards/forwards in the database for the next occurrence of data specified in the Find dialog.

Possible problems

1) After updating the program, the new fields do not appear: please delete the layout file (.GRD) associated with the current database in order to reset the layout of the grid to the default.

2) I f the grids appears empty or corrupted, you have to delete the layout file associated with the database. The next time you open the database, the default layout will be displayed.

Saving your parameters

Saving your parameters

The **Parameters/Save Parameters** subenu saves all your current settings (Setup and Preferences) into a reg file (TRX-Manager.reg).

Depending on your system and version, the TRX-Manager.reg file may be located:

1. in the TRX-Manager\Backup folder
2. in the \User\AppData\Local\TRX-Manager\Backup folder (by default since TRX-Manager V5.X)

Restoring your parameters

To restore your parameters, you have to exit TRX-Manager and double click the **TRX-Manager.reg** file or use the **TRX-Tools** software delivered with TRX-Manager (**Restore Parameters** command). Pay attention to the file paths which will be restored with your settings...

Exporting the parameters

It is sometime possible to restore your parameters into an other computer by running the TRX-Manager.reg file.

Please pay attention to the **file paths** and **com port numbers** which must be the same ones as on the computer on which the TRX-Manager.reg file has been created. You must then use the same organization of your hard disk, the same system, the same com ports, the same UserName and the same screen resolution.

Warnings (incompatibilities)

1. Do not export the parameters into an other computer if it does not have the same **screen resolution** or does not have the same **folders structure** and the same **UserName**
2. Use the reg file with caution from a 32 bit system to a 64 bits system: file paths of the program file folder are generally different between 32 and 64 bit systems. However, if you don't use this folder to store your data, this should not be an issue.
3. To avoid any crash at startup due to a different enumeration of the com ports, it is recommended to set **ALL DEVICES = NONE** using **TRX-Tools** before running the new installation.

If this operation is done by mistake, you may have to invoke the TRX-Manager's **Windows/Reset** submenu for each layout in order to restore the default sizes of each window and/or to delete the whole Registry key (HKEY_CURRENT_USER\Software\VB and VBA Program Settings\FT-Manager) if more parameters are concerned. **TRX-Tools.exe** delivered with TRX-Manager allows various changes in the registry without opening TRX-Manager or the Registry.

About the registration

The Save Parameters function does not save your registration (these registry keys are not transferable).

It is recommended your restore the parameters AFTER you register the software: in some case, restoring the parameters may erase your registration.

Saving, restoring your personal files

See also : Installation, Reinstallation and the note about the **TRX-Manager's folders structure.**

All personal files such as Logbook database (.mdb), SWL (.mdb), MEM (.mem)... should be located in the AppData\Local\TRX-Manager subfolders. However, if you have upgraded from an older version, your files may be still located in the TRX-Manager's subfolders depending on your version and option for **Use AppData** . It is recommended that you backup all these subfolders.

Warning

Please never copy any EXE/DLL/OCX file from one computer to the other. This is useless and can make a reinstallation very difficult and unstable. The only way to install TRX-Manager on a new computer is to use the Setup engine.

All temporary and utility files for the program itself are located either in the TRX-manager's main folder or in the ProgramData\TRX-Manager\Misc folder (depending on your version and option for **Use AppData**). You don't need to save these files since they are restored by the setup engine...

Uninstallation

Easy and clean uninstallation is provided by using Windows utilities.

Automatic uninstallation

The software may be fully uninstalled using the standard Windows's utility (configuration panel: **Add/Remove applet**).

During the process, the software may ask you to keep or to remove some of the shared files. You have to select REMOVE ALL for a full uninstallation (including not shared DLL or OCX files).

Whatever your choice is, the software will not delete effective shared files if they are correctly installed. But if you choose "KEPP ALL" the software will mark these files as "SHARED" and it will not be possible to remove them later.

Manual operations

It may be necessary to delete the ..\AppData\TRX-Manager folders manually because the uninstall applet doesn't recognize files created by the software. You may also save the content of this directory if you wish to reinstall TRX-Manager later.

If you don't think to reinstall TRX-Manager, you may whish to delete the whole registry key: HKEY_CURRENT_USER\Software\VB and VBA Program Settings\FT-Manager. You can use TRX-Tools. exe to delete the whole registry key just before you unisntall TRX-Manager.

Troubleshooting guide: Installation and use

Please read all!

This section summarises the most frequent problems (communications excepted) encountered during the installation or the use of TRX-Manager. Please read ALL!

See also

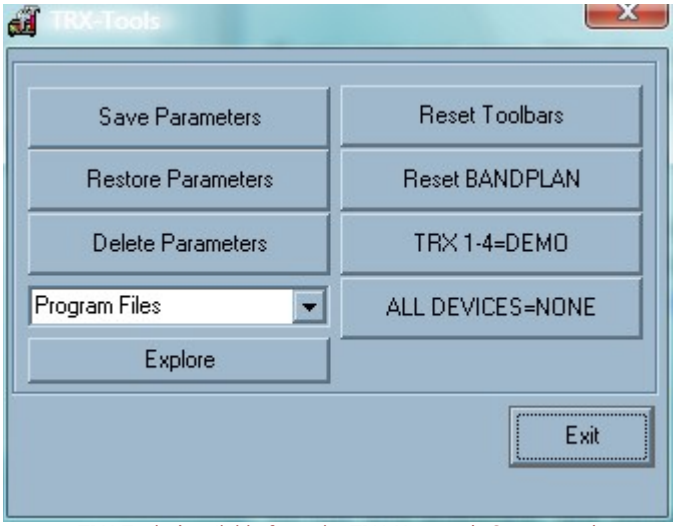
- Communications
- On line support

How to delete and change parameters without opening TRX-Manager?

If you can not open TRX-Manager because of wrong settings and errors at startup, you can delete or change some parameters without running the program.

TRX-Manager stores all parameters and settings in the Registry.

The little program called **TRX-Tools.exe** and delivered in the TRX-Manager's main folder allows you doing some operations on parameters without running TRX-Manager or opening the Registry. See also Saving your parameters.



TRX-Tools (available from the TRX-Manager's Start menu)

About the system

To run TRX-Manager, the minimum required version is Windows 95 SP1. TRX-Manager has been tested on all versions of Windows up to Windows 10, 32 bits and 64 bits.

Crash during installation

In case of a crash during the setup process please make sure to exit all software (anti-viral software included). A crash often occurs because Setup can not update the DLL loaded in memory by other software.

Please note that 256Mb RAM is the minimal requirement on Windows 95/98, 1MB on XP and 2MB on Vista and later.

Error messages during installation

To install and update TRX-Manager under **Windows Vista/Win7/Win8/Win10**, you must have the (so called) **administrator privilege**.

Please make sure your system is up-to-date. In some cases, an error message appears because certain of your system files are out-of-date and incompatible with those necessary for the installation of the program. In theory this problem should not occur if your version of Windows is higher than 95 + SP1 and very rare since XP.

In certain cases, a system file may be failing to register because the file may be locked (in use) at the time of file transfer. Files that commonly have this problem should be registered upon reboot of the system.

Some anti-virus using Heuristic analysis are prone to display false positive warnings. If you get a message like "*Windows cannot access the specified device, path or file. You may not have the appropriate permissions to access the item",* you have to disable your anti-virus during the installation.

Error messages at run-time

Unexpected system error or crash

These problems can occur the first time you launch the program but in general after the installation of another program which crushes the system files by older versions or versions not compatible with your system. That should not occur but the experiment proves the opposite. This incompatibility exists because some of the software installed are using different version of some **DLL** or **OCX** (shared programs used by other software). You may also come across the same incompatibility with any VB5/6/VC++ software.

It will then be enough to reinstall TRX-Manager.

Frequent crashes or system lock-up at startup

Please try to reduce the number of program running in background. Try also to switch Windows into **16 bits color** mode : if that fixes the problem, please try to update your video driver to the latest version.

INITIALIZATION ERROR. PARAMETER 6

You get this message:

The Jet VBA file (VBAJET.dll for 16-bit versions, or VBAJET32.dll for 32-bit versions) failed to initialize when called. Try reinstalling the applications that returned the error.
or
INITIALIZATION ERROR. PARAMETER 6 ...VBAJET32...

This error happens because the MS Jet 3.51 database engine's DLLs on your computer are mismatched. TRX-Manager uses the MS Jet 3.50 version. It works fine with the 3.51 version but some programs feature a wrong installation package with mismatched or missing DLLs.

It is generally enough to process as follow, please :

1. Search for **DAO350.DLL** on your computer,
2. Rename DAO350.DLL as DAO350.BAK,
3. Reinstall TRX-Manager.

For information, TRX-Manager is installing and requires the following MS Jet's DLL :

```
DLL Version

    DAO350.dll   3.50.3602.0
    MSJet35.dll  3.50.3602.4
    MSJInt35.dll 3.50.3602.5
    MSJtEr35.dll 3.50.3602.0
    MSRD2x35.dll 3.50.3602.0
    MSRepl35.dll 3.50.3602.0
    VB5DB.dll    5.00.3724
    VBAJet32.dll 5.0.7122
```

-2147023067 (80070725) : Automation error

This error may occur under Windows 95/98. It is caused by the installation of OLE Automation system files not compatible with your operating system. The following table lists system files required by TRX-Manager under Win XP and Win 9.X : version 2.40 is required under Win9.X while version 3.50 is required under Win XP. Version 2.40 is installed by TRX-Manager under Win 9.X only.

```
DLL-> For Win XP 9X

    OLEAUT32.DLL 3.502.40
    ASYSFILT.DLL 3.502.40
    STDOLE2.TLB  3.50 2.40
    OLEPRO32.DLL 5.05.0
```

A repair tool is available from the TRX-Manager's support page. Please reboot your system after the installation.

Other runtime errors or crashes

You may try reinstalling TRX-Manager.

Unregistered copy

This message may happen after the installation of a new software (very rarely) but ALWAYS if you upgrade your system (e.g from W7/8 to W10). In that case, you need to reinstall TRX-Manager using your personal Setup (file labelled SETUP_TRX5_XXXX) delivered just after your purchase. You don't need to uninstall TRX-manager: please just reinstall TRX-Manager on top of your current copy. This process will preserve all your personal files and settings.

After the installation is completed, don't forget to Register using the Parameters/Registration submenu (no code is required).

Once your registration is confirmed (launch TRX-Manager at least once to confirm your registration), you can update TRX-Manager to the current version.

Drivers for band decoder not found or not installed (Setup/LPT Tab)

Please reinstall the program (or the update); don't forget to reboot your computer to complete the installation. If the problem persists, please ask for a support.

> ⚠ **Windows 8/10/64bits**
>
> Under recent versions of Windows 8/10/64 bits, the (third party) LPT driver may not work. Please note, until now, that NO FIX is available.

Regional settings

A common problem may be coming from your Windows settings. TRX-Manager strictly uses the standard Windows interface: if you encounter a problem entering a frequency with a **decimal separator** such as 0.125 or 0,125 or if you get an **incorrect azimuth** indication please check your **Regional Settings** in the Control Panel under **Numbers** . You have to use the same separator as the separator defined for Windows.

It is best to use the **period** (**.**) as the **decimal separator** . It may be however that on certain international versions of Windows, this choice gives an incorrect operation: in this case choose the comma (**,**).

At last the **digit grouping symbol** must be a **blank (space)**.

Problems with the Toolbars

It may be sometime required to reset the Toolbars to their defaults. **To reset the Toolbars**, please exit TRX-Manager and run **TRX-Tools** delivered with TRX-Manager (**Reset Toolbars** command).

If you don't have **TRX-Tools** , you may reset the Toolbars by deleting the **\Toolbar** folder. Depending on your operating system, the \Toolbar folder may be located under:

1. The installation folder of TRX-Manager
2. The {user}AppData\TRX-Manager folder

Some of the Toolbars disappear

Exit the program and Reset the Toolbars.

The Toolbars buttons are not visible, distorted or black

Under **Vista/Windows 7**, not frequently used items may appear black while using the Aero interface; the work around is simple: please just define any color of your choice for 3D Objects and Menus in Windows (Appearance) and reset the Toolbars (see above).

A (rare) incompatibility may also exist with your Video adapter: please try 16 or 32bits color video mode.

The labels are truncated

This may occur if the **little font** is selected under Properties for display (Windows) because the program is optimized for the large fonts. It is recommended you set Windows to use the **large fonts**.

truncated labels in little fonts

Somes of the windows are truncated or with wrong positions

This may happen under XP or Vista if the size (height) of the titlle bar is too large. It is enough to reduce the size of the title bar from the System's graphical preferences.

This may also occur after you change (reduce) the screen resolution. Please run the Windows/Reset submenu for each layout in order to restore the default sizes.

Last screen layout lost at startup (main window empty).

Please note that after a crash and in order to prevent automatic opening of the windows and a new crash to occur, TRX-Manager leaves the **Previous** option (Preferences/Software) unchecked. You may have to check this option again for normal use.

Uninstallation/reinstallation of TRX-Manager

In case of serious problems, reinstalling TRX-Manager may be a solution. In that case only, it is better if you uninstall TRX-Manager before reinstalling it!

> ***Note***
>
> *After a system upgrade, you need to reinstall TRX-manager because the new system erases your registration. In that case, you don't need (and it is not recommended) to uninstall TRX-Manager.*

Other problems with the software

TRX-Manager has been carefully tested, but as with any software, it is certain that some bugs remain. As TRX-Manager is not a classic commercial product, you have the opportunity to ask the author for a correction. Also, do not forget that each transceiver is different: a CAT command available for the FT-920 may not be available with the TS-590 or the FT-817! See your manual to check if the desired command is available…

You may also see the web site for the latest information or update at: http://www.trx-manager.com/support.htm

Transceiver control

Transceivers: Overview and Settings

TRX-Manager can configure up to four transceivers (Setup: **TRX1** to **TRX4** tabs).

Definitions

Up to four local transceivers (+ one remote transceiver) can be used at the same time:

- One Transceiver is called **Main** and is controlled from the Monitoring window. The Main Transceiver can be selected from the Transceiver menu.
- The other three Transceivers are called **Sub-Transceivers** and are controlled from the Sub-Transceivers panels. Not all Transceivers are supported as Sub-Transceiver.
- The **Operating** Transceiver is the one activated for the various modules of TRX-Manager. By default, at start-up, the Main Transceiver is the Operating Transceiver but a Sub-Transceiver can be defined as the Operating Transceiver at any time during a session (see below about the **Operating** transceiver). The Remote transceiver can be configured as the Operating transceiver as well.

The Main Transceiver has a comprehensive support while a Sub-Transceiver or a Remote transceiver only supports essential functions and programmable macros. Synchronization, Drag and Drop is possible between transceivers. **OP** function, support of SO4R mode (Single Operator Four radios) provides great flexibility in the use of five transceivers at the same time.

Sub=TS-590S (left), Main=K3 (right)
Operating transceiver =TS-590

> **When transmitting**
>
> There is no function in TRX-Manager to protect a transceiver in receive mode while an other is transmitting. You must switch it OFF manually!

> **See also**
>
> - Specifications ICOM, Yaesu, Kenwood, Elecraft, TenTec, Alinco, JST, Others
> - Synchronization (RS232), Amplifiers, Band Decoder
> - Band Plan, Modes and filters

Setting up your transceiver

For each Transceiver, from **Setup/TRX1..4** , you define the **type** of Transceiver, the **Serial Port** and select the communication **Speed**. For some transceivers **DTR** or **RTS** case must be checked but more often this option is only required to power on the RS232 interface and not to support a communication protocol.

If you use an ICOM, please fill in its **address**, fill in the **number of memories** and check **C00** if the channels are numbered from #00.

For a **TS-2000/480/590/K2/K3/KX3** (or **Remote**) transceiver, if you choose the internal CW Interface, check **CW Internal** (CW via CAT port). For these transceivers any other settings made under the CW tab will be ignored while **Internal** is checked.

PTT options are required in case of you don't use PTT (TX On/Off) via CAT or if your transceiver does not support PTT via computer. TX Interrup settings are rarely used.

Under **TRX1** tab, you also find the SO4R option (Single Operator Four Radios) which provides various switching options via the parallel port or automatic selections depending on the Operating transceiver.

Ck Buffer is usually NOT checked. If checked, the program checks for an empty buffer before sending any new command. This may reduce the number of collisions and errors but the program may also lock up with some comm drivers (like Prolific).

If you own an LP-100 Digital wattmeter, you can configure it from **Setup/TRX1**

Please **restart TRX-Manager** after checking for all the parameters.

Now, you launch the Monitoring which is the heart of TRX-Manager by clicking the **Monitoring** button or **F6**. With some transceivers, you may have to click the **CAT control** button (if it is visible) to engage the communication between the program and the transceiver. If all has been properly configured, the **Monitoring** window displays the current state of the **main transceiver** and you can control it from the computer.

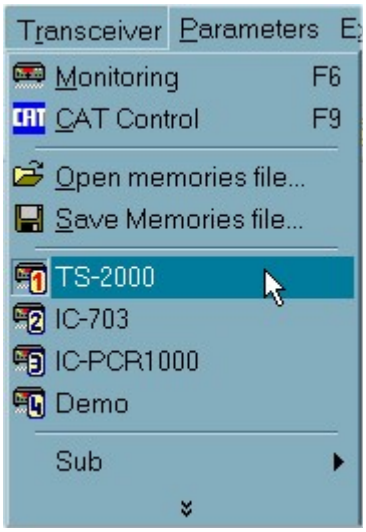
About com ports

If you select the same com port for different transceivers or devices, you will receive a warning message (like "Erroneous parameters..."). While this is is a Warning only and this configuration will be accepted by the program it is recommended you take care not using these different devices sharing the same com port at the same time... since it is NOT supported by Windows and may generate an error at startup of TRX-Manager.

Selecting the Main Transceiver (Monitoring)

The **Monitoring** window controls the **Main transceiver**. When you start TRX-Manager for the first time, the main transceiver is generally the one defined under **Setup/TRX1**.

The Main Transceiver can be selected at any time from the **Transceiver** menu. This menu displays various items corresponding to each configured transceivers:

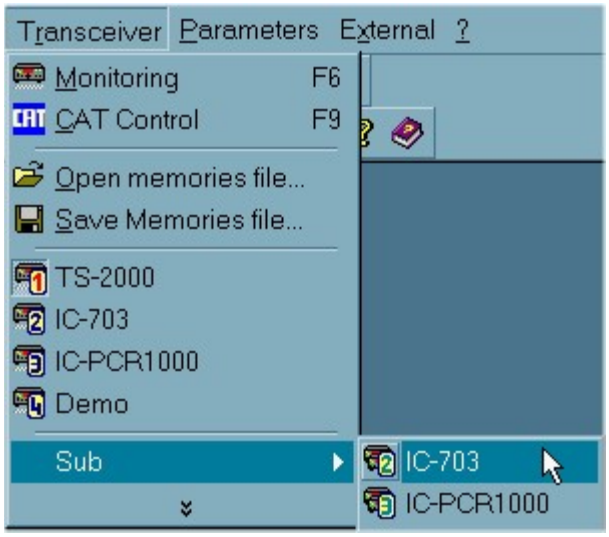


About com port (main transceiver)

The serial port for the main transceiver is opened as soon as the program starts and closes when you exit TRX-Manager; however, it can be temporarily closed using the Transceiver/Com Port. submenu. Whatever its state when you exit TRX-Manager, the com port is always activated at startup. You can check the status of the com port and the transceiver selected from the Parameters/My Configuration sub menu.

Control of a Sub-Transceiver

To control a Sub-Transceiver you open the Sub-Transceiver panel from the **Transceiver/Sub...**submenu. Only Transceivers supported as Sub-Transceiver (see list) are displayed in this menu.



About com port (sub transceivers)

The sub transceiver's com port opens only as you open the Sub-Transceiver window and closes when you closes this window.

Preferences

The **Transceiver's preferences** are distinct for each Transceiver (Band Plan excepted). Transceiver model and Logging **TX Power** are also memorized for each Transceiver.

Preferences are accessible only during the time the corresponding transceiver is selected as Main Transceiver. If you need a change in the Preferences for a Sub-Transceiver, please define it temporarily as Main from the Transceiver menu.

Definition: the Operating Transceiver

The Operating transceiver is the one activated for the DX Spots (Web& DX Cluster), the Short Wave database, the Logbook, the DXCC module, the Quick Memories, CW Interface and the DX Bar.

By default, at startup, the **Main Transceiver** is the **Operating** Transceiver. The **Operating** transceiver can be selected at any time and very quickly using the **OP** button available from the Monitoring or Sub-Transceiveror Remote control windows (i.e. this OP function provides logging from a Sub-Transceiver...). The Preferences for the Rotator (by band) follows the Operating transceiver.

Some modules also provide independent selection of the Operating Transceiver.

In addition, depending on the state of the SO4R option (under **Setup/TRX1** tab), **OP** function also links the Band Decoder, OLE , Synchronization with the **Operating** Transceiver.

Selecting the operating transceiver at startup using a command line switch

*A switch (**/TRX1**to **/TRX4**) can be added to the command line to start TRX-Manager with a specific main transceiver. The command line must look like this : **"C:\Program Files\TRX-Manager.exe" /TRX2** to start TRX-Manager with TRX2 as main and operating transceiver.*

Frequency range

TRX-Manager covers the frequency range from 0.1 to 2000 MHz with the following accuracy:

```
below 160MHz           : 10Hz/1Hz
from 160MHz to 1600MHz : 100Hz/10hz

above 1600MHz          : 1KHz/100Hz

Accuracy may be higher with some transceivers.
```

Troubleshooting guide : Serial port

The program doesn't communicate with your rig (or your TNC, Rotor...)

Of course, anything is possible, but please think first that a programming fault is the less likely. Please read all: almost 99% of the possible situations are covered in this guide and the TRX-Manager's support page!

Sometime, the synchronization between the transceiver and the display is lost. It is generally enough to update the synchronization using the Monitoring's Update button. This button has different layout depending on the transceiver you use : generic, Kenwood, ICOM or Elecraft.

Otherwise, review all your configuration by opening the **My Configuration** sub menu. All your current configuration is displayed and allows you to review all your parameters and settings. You can save this information into the clipboard by using the copy and paste button.

If the program locks up at startup, you can use **TRX-Tools.exe** (available from the TRX-Manager's Start menu) to reset all your settings (TRX1 to TRX4) to DEMO or ALL DEVICES TO NONE.

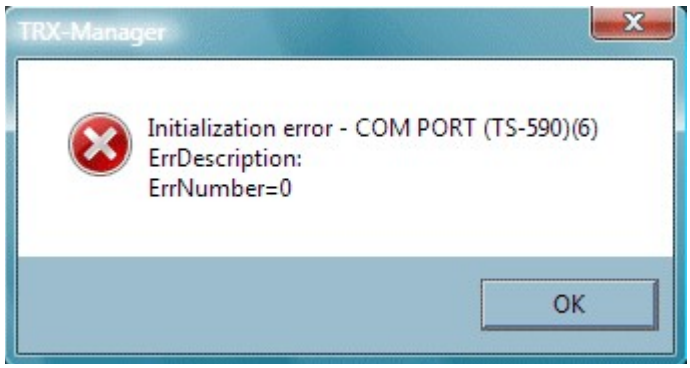
Related Topics

- Troubleshooting (general)
- Support page

Step 1 : cockpit check list

Please check that your **Transceiver and its RS232/TTL Interface** are **powered up**! Some RS232/TTL interface are powered up through the **DTR** line of the com port (DTR must be activated).

If you use a transceiver with an **USB port**, make sure the transceiver is powered up. Although TRX-Manager may start with the Transceiver in OFF, if your transceiver is not powered up, the USB interface does not work and TRX-Manager is unable to find the corresponding com port. You will have an error like this one:



This TS-590 is not powered up
The USB interface does not work

Make sure the **right and exact model** of Transceiver is selected under **Setup** and select the same Transceiver from the **Transceiver** menu (see Dual Setup). If the exact model is not selected (or a generic model is selected), the program may run but with limited functions.

Make sure the **Com Port OFF** function (**Transceiver** menu) is not activated. It you find it activated at startup, please exit the program and delete the **\Toolbar** folder before you restart TRX-Manager. You can check the status of the com port using the **Parameters/My Configuration** sub menu.

Make sure that your interface is not running with another program (physically connected or not to a device like a modem, a FAX or a PDA...).

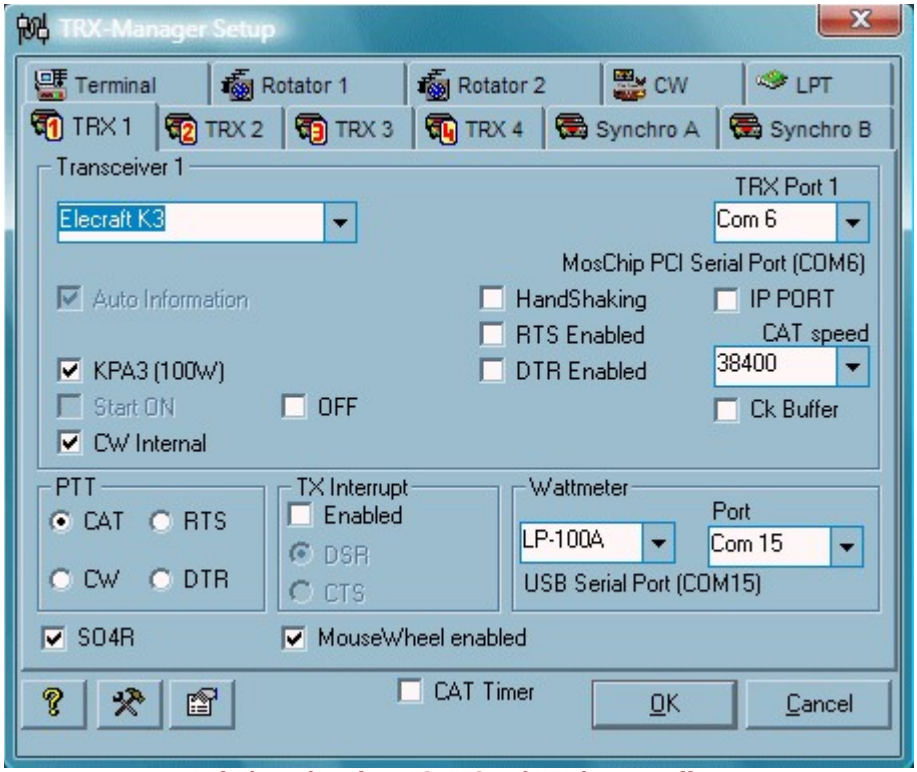
Step 2 : check your interface and your cable

The communication problems generally come from the interface or a faulty cable (most likely). In some cases you may have to program your interface or to wire it. Please note that you may control your serial data line with help of the CAT Commands window.

In case of you use an **USB/Serial** adapter, please check for the com port number that has been created in the **Device Manager**.

Step 3 : the TRX-Manager's settings

Checking the **DTR** and/or **RTS** check boxes of the **PTT frame** may be required to power-on the interface. RTS checked is also required for Kenwood and TenTec transceivers. In fact, except if you use one of theses lines for Transmit/Receive switching it is preferable to let these cases checked and **in case of any communication problem, please let [CAT] checked and check [DTR Enabled] and [RTS Enabled].**



Default settings for a K3. RTS and DTR have no effect.

If you don't know how to use the TX Interrupt feature, please let the **TX Interrupt Enabled** check box NOT checked.

Ck Buffer is usually NOT checked. If it is checked, the program checks for an empty buffer before sending any new command. This may reduce the number of collisions and errors but this can not solve a communication problem. Moreover, this function is not supported by some comm drivers (like Prolific) and this may lock up the program.

Handshaking is only required with Kenwoods, some TenTecs and some serial servers. It is NOT required with other brands and may lock up the program at startup. Should this happen, you have to use the TRX-Tools program (distributed with TRX-Manager) to reset all your configuration to DEMO (TRX1-4= DEMO).

If the monitoring display doesn't reflect the transceiver status, check the dual control option (Setup). Except for special cases, this option should be enabled (checked).

If you com port does not appear in Setup, you can try to type the port number **com n** (e.g com 1) in the Port combo box. Warning: this may cause a crash at startup if this com port does not exist.

Step 4 : the Transceiver's settings

Check that the Setup's speed is the same as that definite for your transceiver; if necessary, try to decrease or increase this speed.

Particular case : ICOM and TenTec

If you are using an **ICOM** or a **TenTec OMNI VI**, please check :

- **TRANSCEIVE** function is ON (**CdE** on TenTec). Setting methods differ according to radios. Refer to the instruction manual of each radio
  The **transceiver address** of the radio is the same as the one in the Setup of TRX-Manager
- **AUTO Baud** (or Auto-Speed) is not selected, but select a true speed : 9600 or 19200
- **CI-V 731 Mode** is set as OFF (except for IC-735)
- In most cases, **Stop Bits = 2** gives more reliable communications ; however, in some other cases this parameter does not work properly and you must try **Stop Bits = 1**.
- The ICOM and TenTec transceivers function better at 19200 bds.

Sometimes if you use an ICOM (or a TenTec OMNI VII), you may receive this message "*Communication error (Invalid message format)*". This is a warning only which appears once for each session. Generally, this message is without consequence ; however you can try to improve your parameter settings.

Particular case : FT-847

Unlike most other transceivers, the FT-847 serial data cable is a **null modem** (crossed) type, not a **straight** serial data cable.

The FT-847's microprocessor uses the same com port to exchange data with the FC-20, CAT programs and a clone transceiver... thus this transceiver doesn't allow you to simultaneously use the **FC-20** antenna tuner and the CAT system! It is not the fault of the programmer...

Particular cases : KENWOOD ELECRAFT

The Kenwood or Elecraft transceivers function better at high speed. Please select the highest speed available.

HandShaking parameter is selectable: With Kenwoods only, try None (NOT checked) or RTS (Checked) if you don't have any communication. Make sure your cable supports RTS Handshaking if RTS is selected. If RTS is selected for Handshaking, you can NOT use it for PTT Switching or CW Keying!

With Elecraft Handshaking is NOT required and may lock up the program (this option is only required with some serial servers).

Step 5 : check your com ports

Choosing an USB/RS232 Interface

The RS232/USB Converters built with FTDI chips are the more reliable and are strongly recommended! A multi-ports PCI card (internal to the computer) is a very good solution which minimizes RFI and a cheaper alternative to 4 separate USB/Interface Cable.

See how to select your converter: http://www.usb-serial-adapter.org/

TRX-Manager can NOT communicate through a serial port that is already opened from an other application or an other module of TRX-Manager.

From the Windows device manager, please check there is no conflict between com ports or USB adapters. A conflict with **IRQ5** (usually used by the sound card) is not detected by Windows! If you use an ISA PC board, check the DIP switch related to addresses and IRQ are correctly configured.

Serial to USB converters

USB to Serial converters built with **FTDI** chips are strongly recommended ; they are very reliable and provide very fast communications. The cheap converters built with **PROLIFIC** and all Clones chips are prone to malfunctions and slow communications with TRX-Manager.

Serial port on mother board

You may check that the **BIOS Setup** program of your PC reflects the correct parameters for the serial ports (the same ones as those displayed by Windows in the device manager). Note that in some cases, when something wrong happens at a com port (shortcut, defective cable or interface...), your **Bios** disabled this com port without warning.

In practice the following parameters are most common for COM 1 and COM 2 (port on mother board) :

COM 1 IRQ 4 address 03F8-03FF
COM 2 IRQ 3 address 02F8-02FF

Particular case : Windows ME

The software functions properly under **Windows ME**. However, this operating system leaves the **DTR** and **RTS** lines of the com ports in a high state at each startup. This is important to know for it can cause an unpleasant effect on the CW and PTT lines at the startup of the PC! Running TRX-Manager and opening the concerned modules will set the DTR and RTS lines to the state required by TRX. In certain cases this problem could lock up the RS-232 interface(s) when starting your PC. A little program (**ComFix.exe**) available on the support page allows you to set Windows ME to counter this defect.

TRX-Manager suddenly stops communicating

If a communication error happens, it may be enough to clik the **update**button of the Monitoring to resume the communications.

Test your device (Transceiver, TNC...) with another program. Check the com port has not been disabled by the **Bios** program (see above).

RFI Problems

In some cases, especially on 160m, 80m, 40m at high output power, you may have a communication error when transmitting. This is caused by **Radio Frequency Interferences** (**RFI**) between your rig and your PC. You should find a hardware solution (see any Handbook) but please note this is a minor inconvenient: TRX-Manager has been written to automatically resumes any communication error (except the first one!).

Reinstalling a com port

This is a solution of the last chance but that can be effective sometime. The steps are:

Port on mother board (for expert only)

- Remove the defective serial port from the device manager
- Reinstall the serial port
- Check you BIOS parameters

USB/Serial Interface (or PCI cards)

You can check your equipment with an other software. However, if it passes this test, your USB driver may still be faulty! (*).

If you use an USB/Serial interface, the following steps are mandatory:

- Unplug the USB interface (or the PCI card)
- Remove the com port from the device manager
- If possible delete the driver manually
- Reinstall the driver (to download from the manufacturer's web site)
- Restart Windows
- Plug in the USB interface (or the PCI card)

(*) Results depend on the way each programmer uses the com port's APIs.

Specifications

ICOM Transceivers

This section applies to **ICOM** radios and TenTec radios using the ICOM protocol (**Omni VI** and **Omni VI)**.

If your transceiver doesn't appear in the **SETUP** list, please choose the **ICOM** option which should function with all ICOMs using a generic (but limited) set of commands.

Settings

Controlling an ICOM via the **CI-V** protocol requires a **CT-17** interface or compatible such as the **W1GEE's LCU-3**. Some older transceivers (**CI-IV** standard) require the conversion interface **UX-14** between the transceiver and the CT-17 interface.

Using the LCU-3 interface requires checking DTR to power on the interface.
Using the RS-746 interface requires checking RTS to power on the interface.

From the **SETUP** dialog box of the program, you must specify:

- The **transceiver's address** such as defined by ICOM (or that which you have yourself defined),
- The **PC's address** (E0 by default),
- The **number of channels** (maximum 99),
- The **channel numbering** (please check **C00** if the first channel is #00)
- The **baud rate**.
- **Stop Bits = 2** (default). Rarely, Stop Bits = 1 is required (recommanded by ICOM).
- **Dual Control** usually checked - unchecked only if you connect your ICOM to your computer through a serial server (*)
- **Polling**: Unchecked is the default. This option is not recommended and NOT required in most cases (provided that the TRANSCEIVE option is selected, see Cautions below).

From your ICOM radio you have to check:

- The **baud rate**: some transceivers feature an AUTO BAUD or AUTO SPEED function. However, it is recommended to NOT use this feature and to set the speed from the transceiver to the highest available value. However some models may not run properly at the maximum available speed (19200) : in that case, please select 9600 bauds.
- The **number of bytes** for the frequency: except for the **IC-735**, exchange of frequencies is done in 5 bytes : check that your ICOM is not setup for a frequency in 4 bytes.
- The **TRANSCEIVE** function (or **CdE** on **TenTec**): when the transceive function is ON, any changes in the operating frequency or mode on the radio is automatically transferred to the computer. Make sure to set the Transceive function as **ON**. Setting methods differ according to radios. Refer to the instruction manual of each radio. Warning : After the use of some other software, this function may be set as OFF !...

Cautions

The use of TRX-Manager with several ICOMs inter-connected in a network (to the same CI V bus) is not advised; indeed the collisions between commands slows down the program and some commands can not be executed. However, if you do so, the Polling option is required in order to synchronize the program and the selected transceiver after a frequency/mode change done from a second ICOM.

Sometimes, you may receive this message "*Communication error (Invalid message format)*". This is a warning only which appears one time for each session. Generally, this message is without consequences; however you can try to improve your parameter settings.

(*) See also Disabling Dual Control. If Dual Control is checked TRX-Managers waits for NG and OK messages before displaying the new status of the transceiver. Dual Control is more secure but not compatible with the use of a serial server via the Internet.
(**) for the older ICOMS (IC-751, IC-761...) or if you select the ICOM option, TRX-Manager polls the tansceiver every 500ms since these rigs do not have a Transceive function.

IC-PCR1000

Some PCR1000 owners have reported that they have corrupted their EEPROM by running 3rd-party software and/or even the Icom's software. The PCR1000's EEPROM stores the calibration data and each EEPROM is specific. It is recommended you backup your EEPROM before using any software. A third party application TALKPCR can save and restore your EEPROM. See also here.

Operation

The set of commands is variable from one model to the other. Due to the large number of commands available and their diversity, only the most used commands (in real-time) are supported by TRX-Manager, essentially from the Monitoring and the **Levels** windows (see below). Additional commands can be programmed using macros. Please see your manual for the available commands.

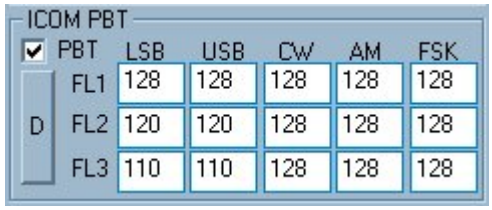
Modes and filters

You have to set up the **Filters** (FIL1-N, WID/NAR...) by defaut for each **Mode** from the Preference/transceiver dialog box (See also Modes and Filters). From the Preferences/Transceiver dialog, you may also enable the AUTO **PBT** function (see below).

If your transceiver supports the **PBT** and **DSP Width** functions, TRX-Manager provides two very convenient functions :

Auto PBT (IF-Shift)

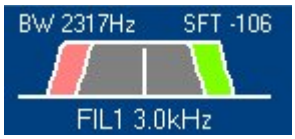
From the Preferences/Transceiver dialog, you may set up the default values of **PBT Inside** and **PBT Outside** for each mode. These values (ranging from **0 to 255**) apply for both the Outside and Inside PBT commands and allow defining an IF-Shift (i.e SFT= -150hz for a value of 110 but to be tested...). 128 are the factory default values (click **D** to reset factory defaults).



Default values of PBT Inside and PBT Ouside for each mode

Graphical display

The Monitorings' window displays the PBT Inside and Outside bandwidths (values approximated).



PBT Graph. Display

Note about the speed of communication

ICOM transceivers automatically communicate frequency and mode changes but other parameters (channel number, Split mode, VFO…) that are made on the transceiver are not transmitted to the computer. The consequences are the following:

- *After TRX-Manager is started, some parameters are fixed by default or unavailable. The display progressively becomes available as commands are sent from the PC. If necessary, rotate the dial tuning to display the frequency,*
- *It is thus recommended to change the VFOs or to switch the SPLIT mode from the PC.*
- *TRX-Manager does some polling of important data but gives a priority to the most critical data (Mode, S-Meter, TX State...). Consequently the other parameters (like PBT, DSP) may refresh slowly...*

Frequencies displayed

Unlike most recent transceivers of the major brands, the ICOM CIV protocol only notifies the changes of the frequencies and modes (including filters) of the selected VFO (A or B, Main or Sub) provided the **Transceive** option selected in the menus. All other parameters are obtained by periodic polling. In addition, it is not possible to determine which VFO is selected. This protocol is very reliable and stable but some drawbacks are resulting from this logic :

- Updating of the parameters (other than those automatically notified) is relatively slow,
- When the VFO B (or SUB) is selected on the transceiver, the display can be confusing

Generally, it is recommended to select VFO A (or Main) on the transceiver before starting TRX-Manager and, then, to select the VFO from the TRX-Manager only.

ICOM has recently introduced a command to poll/set the frequency and mode of the unselected VFO (1A25/26 commands).

In TRX-Manager, the main display of the Monitoring (RX and TX) is always relative to the selected VFO (A or B, Main or Sub). If available, the VFO B (or SUB) frequency is displayed in the B frame of the Monitoring or by clicking the **SUB** button : in this case, the VFO B (or SUB) is selected when the mouse passes over the digits to allow changes by right/left clicks on the digits. Once the mouse leaves this field, the VFO A or Main is selected again. The full update of the display can take 1s.

When the mouse is over the digit, VFO B (SUB) is selected

Tips by Rich K0FUN

When TRX-Manager starts is assumes VFO A is active. If the radio is set to VFO B the program will read this value into VFO A of the program. This can be confusing. The following prevents the problem:

1. With the transceiver on. Start TRX-Manager.
2. Select VFO A from the program (This will insure the Radio is using VFO A)
3. Turn the VFO knob on the radio slightly. This may result in a Dialog Box indicating a Communications Error (Invalid message format). This only comes up once and is not serious
4. Select VFO B from the program.
5. Turn the VFO Knob on the radio slightly. 6. If Split is enable on the radio disable it from the radio. If you want to operate split enable it from the program.

Features and limitations

The number of memory channels is limited to 99 for all the models (see below).

Generally, the oldest ICOMs (before IC-746) do not allow reading of the s-meter (and consequently the bandscope is not supported), SPLIT command (status write and/or read), VFO A/B, PTT controls may be not available. If PTT control is not available, you can still control TX/RX status using the RTS/DTR Lines.

Only the most recent firmware allow reading and controlling the unselected VFO (see the CI-V manual and if cmd 25 and 26 are available).

With **IC-R75**, please use **AM Reverse** to set **AM Synchronous**.

With **IC-PCR1000**, press the CAT button of the main toolbar to power on the receiver.

With **IC-820/821/910/9100** MAIN & SUB VFO are simultaneously displayed and updated only if you are in SAT mode; it is important you engage SAT mode from the program (see also Satellite interface).

Power ON/OFF

TRX-Manager assumes that the transceiver is turned on at startup. If this function is supported, use the power button CAT to turn on/off the transceiver. After sending a "POWER ON" command, you may have to press the Monitoring's Refresh ICOM button to refresh the display.

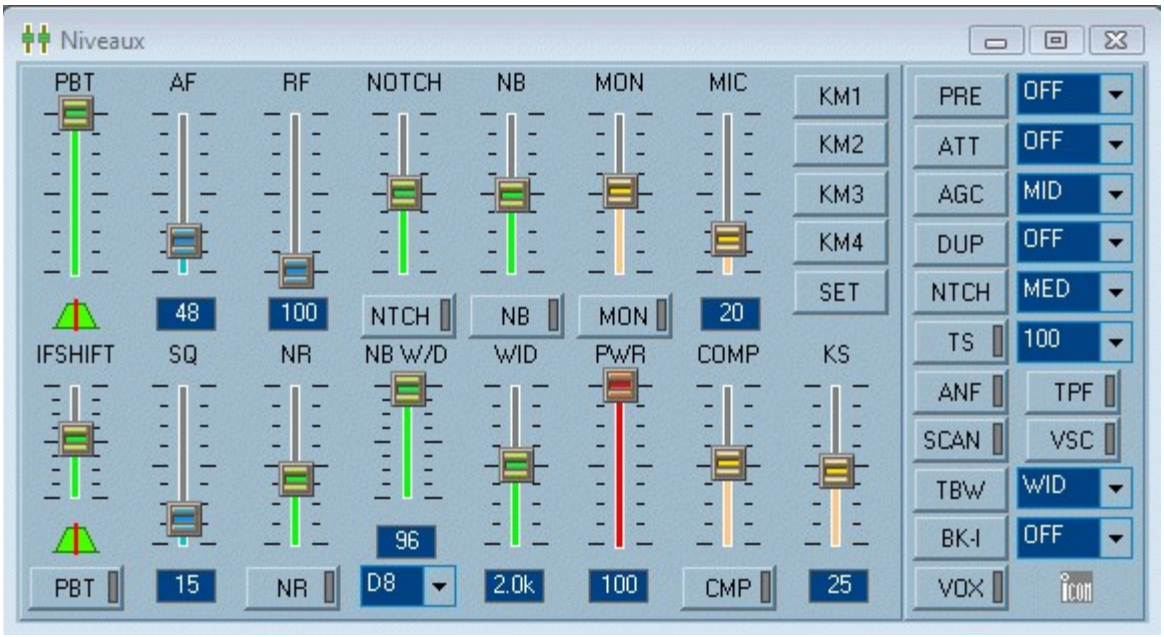
Warning

Depending on the transceiver you are using and the way the interface is powered on when you switch off the transceiver, you may be unable to power the transceiver on again... Generally, if you use a separate CIV converter (CT17 or clone) powered by a 12v source, it should work. See the documentation provided by ICOM.

Depending on the transceiver you are using and the way the interface is powered on when you switch off the transceiver, you may be unable to power the transceiver on again... Generally, if you use a separate CIV converter powered by a 12v source, it should work.

Additional functions : Levels window

If you are using a recent ICOM (since IC-746) a lot of commands are available such as **AF Level**, **Squelch**, **APF**, **NR**, **PBT** , **IF Shift**, **Keyer**... Most of these commands are implemented from the Level windows (**Transceiver/Levels** submenu or Toolbar's button). Controls automatically update at startup; then click ICOM to update the controls.



Levels window (IC-7100)

If necessary additional commands may be implemented using the Monitoring's macro buttons or TRX-Command.

About the memory channels

The number of memory channels (= number of the last channel available) is limited to 99 for all the models. TRX-Manager begins memory channels numbering from #1; some ICOMs begin numbering from #0 and a shift of one unit is possible between the channel number displayed by the program and the one displayed by the transceiver. If the first channel is Channel #0, please check **C00** (Setup). Selection of the **memory bank** (if possible like with IC-7000) is done from the **Display/Memory Channels** window .

The editing or the transfer of the channels from the PC to the transceiver is possible from the Edit/Memorysubmenu or by a right click from the channel window. Note that if you modify the contents of the memories from the transceiver, there can be a difference with the contents displayed by the program. It is therefore recommended to modify the contents of the memories only from the program. In addition the transfer of the memories to the transceiver is very slow.

> ***Reading the memory channels content is not supported***
>
> *TRX-Manager can NOT read the contents of the memories of ICOM transceivers. It could be done, but was not programmed in order to preserve the compatibility between the various models; moreover data like the shift, CTCSS tones etc. could be read only from some ICOMs by a specific command which is not available on the other models. Nevertheless, TRX-Manager reads the frequency and the mode of each channel when they are individually accessed from the program and preserves the values, between sessions, on hard disk.*

If these functions are available on your **ICOM**, TRX-Manager memorizes the receive and transmit frequencies (SPLIT mode), tonality CTCSS (repeater and T-Squelch). The **repeater shift** (DUP) is ALWAYS memorized as a receive-transmit **shift** in SPLIT mode (except **IC-820/821/910** for which it is memorized as a repeater offset in FM).

Recent ICOMs (**IC-703 IC-746/PRO**, **IC-R75** and **IC-756PRO/PRO2/PRO3 IC-7000 IC-7410 IC-7600 IC-7700 IC-7800/7850 IC-9100)** provides editing of the memory labels from the PC (supported). But Destination Call Sign, Access/Area Repeater, Link/Gateway Repeater and Digital Squelch settings are NOT supported.

TRX-Manager preserves the contents of the memories on hard disk between the sessions.

D-Star

DV mode and **DV TX Callsigns** (**D-Star**) are supported (compatible transceiver only) either from the Edit/Frequency (F2) dialog or the Edit/Memory Dialog.

Remote control

Like all other transceivers, your ICOM may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions. In addition, you may also take full control over your transceiver through a network using the real remote control mode : TRX-Manager behaves like if the com port is locally controlled.

Yaesu

Yaesu transceivers

Related Topics

- FT-990 ROM1.2, FT-1000 V5, FT-747, FRG-100
- FT-1000MP
- FT-757GX
- FT-767GX
- FT-817/857/897
- FT-847/736/212/412
- FT-980
- FRG-9600
- FTDX3000 FTDX5000 FTDX9000 FT-2000 FT-950 FT-450

General remarks

YAESU transceivers are very different from one model to another. Consequently, many functional differences are possible depending on the transceiver selected.

Please note the following functional differences between some Yaesu transceivers:

● The generic **Yaesu** selection for "transceiver" should run with various (but OLD) Yaesu transceivers or receivers but with limited functions (setting of frequency and mode only - no monitoring). Except for special needs or tests, do not select **Yaesu** but the exact model of your transceiver.

●With FT-847 FT-736 FT-212/412, FT-767GX FT-980 to be under **CAT control** you must press the **CAT** button (located on the main toolbar) or the **F9** key.

● Early **FT-990** and **FT-1000** firmware versions (prior to rev. 1.3 or V6), **FT-747** or **FRG-100** do not allow a constant communication with the PC. Please read the section about FT-990 ROM1.2, FT-1000V<6, FT-747 and FRG-100 for more information.

●FRG-9600, FT-757GX, or FT-736 have limited functions. Please see the corresponding sections of the help.

● **FT-757GXII** allows using all the functions of the program but editing the memories, changing the frequency or the mode is not possible when in **MEMemory** mode.

●With FT-817/857/897, FT-847 or **FT-100** it is not possible to read/write the internal memory channels of the transceiver : memory channels implemented by TRX-Manager are virtual and not related to the channels of the transceiver. **The FC-20 and FC-30 antenna tuners are not compatible with the CAT system**.

● With **FT-890/900** and **FT-100** setting the clarifier is not supported. However, the program reads the clarifier and displays the right RX frequency. With **FT-840**, the clarifier (read/write) is not supported. This could cause the recalled frequency to be wrong.

● With **FT-920** and **FT-1000MP** : SWL and BAND SCOPE are running only with VFO A selected, real time scanning functions (**up down**) are not supported. Some commands of the Rig's internal electronic keyer are supported (**FT-920** : **Tools/Rig's Keyer** - **FT1000MP** Tools/EDSP). With **FT-1000MP/MKV** selected, scanning from the Monitoring's Up/down button as well as from the Command panel uses the proper scanning function (smooth tuning). This may not work properly with older FT-1000MP ; in that case, please unselect AUTO from the Range dialog of the command panel (receiver will be muted during scanning).

● With arecent Yaesu **FT450 to FTDX9000**, you must define the width of each DSP filter under **Preferences/Software**. See also Modes and Filters.

● With **VR-5000**, only 4800 bauds speed is supported correctly. Communication is not bidirectional: reading frequency and mode is not possible. To be under **CAT control** you must press the **CAT** button (located on the main toolbar) or the **F9** key. **Under CAT control, the display of the receiver may freeze or the S-Meter may be erratic. S-Meter only runs properly when the sub-receiver is activated.** Consequently, the TRX-Manager's BandScope only runs with the sub-receiver in AM-N mode by defaut. Reading/writing the internal memory channels is not possible: memory channels implemented by TRX-Manager are virtual and not related to the channels of the receiver. **VFO A = Main receiver** while **VFO B = Sub receiver**. The Clone mode is not supported.

Operation with FT-990 ROM 1.2, FT-1000 V5, FT-747 and FRG-100

This section is about the early firmware versions of FT-990 and FT-1000, the FT-747 or the FRG-100.

The early firmware versions of FT-990 (ROM 1.2) and FT-1000 (V5), the FT-747 and the FRG-100 do not provide a real time transmission of data such as frequency, mode… You have to select **FT-990 ROM 1.2 or FT-1000 V5** in the **Setup** dialog box to run TRX-Manager (or should this happen **FRG-100 FT-747**).

update function

TRX-Manager was implemented to run with these transceivers with following differences :

- The real time monitoring doesn't run : you have to press the **Update** button to manually update the monitoring display ; but the program does it automatically when calling specific functions such as : memory reading, QSX, memory or QM writing and parameters setting.
- It is possible to have a slight difference (10 to 20 Hz) with the displayed frequency and the right frequency ; you have to press Update to accord them,
- The automatic band scope refreshing is not working.

However, when controlling the transceiver from the PC you should not see a great difference. In fact the program simulates a communication with the transceiver through a virtual com buffer.

Note that for the FT-1000 owners, a version 6.0 ROM chip is available from Yaesu USA and is very easy to install (just a thought).

FT-1000 MP - EDSP and Keyer Controls

This section applies to the FT-1000 MP EDSP and Keyer controls.

When writing this section of the code with help of Rocco WU2M, we thought it would be possible to control all of the EDSP menu settings via the CAT commands. In fact the problem was more complicated and we have to explain below the logic of the EDSP CAT commands to allow you to understand how to use them from the program.

General information and limitations

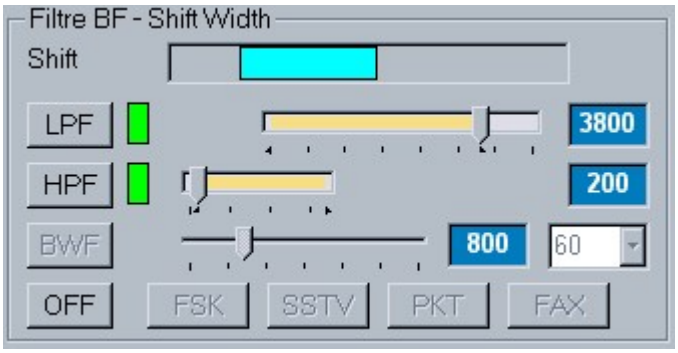
When you change the Mode/Filter or you key the rig (RX/TX), the FT-1000MP processor calculates new EDSP conditions by reference to the menu settings. **Since It is not possible to access the menus via the CAT commands, after you send an EDSP command from the computer, these settings are lost as soon as you change a parameter like Mode/Filter or RX/TX !...** Please don't be surprised but note TRX-Manager has been written to reset the transceiver to the program's settings provided you KEY the transceiver from the program.

To use EDSP from TRX-Manager, **you have to switch EDSP settings to ON from the rig** before changing them from the program (you may switch some of them to OFF via the CAT commands...).

RX-EDSP and TX-EDSP windows

You have to switch EDSP ON in order to control the EDSP via the program.

EDSP control is possible from the **RX** and **TX-EDSP** windows (**Transeiver EDSP** submenu or tool-bar buttons). These windows work in conjunction with the Monitoring module. Controls are as intuitive as possible. **RX-EDSP TX-EDSP** and **AF Filters** commands are mode related. Due to an incompatibility with rig menu settings, the RX-EDSP ON button allows you to enable or disable RX-EDSP by CAT and not to switch it to OFF.



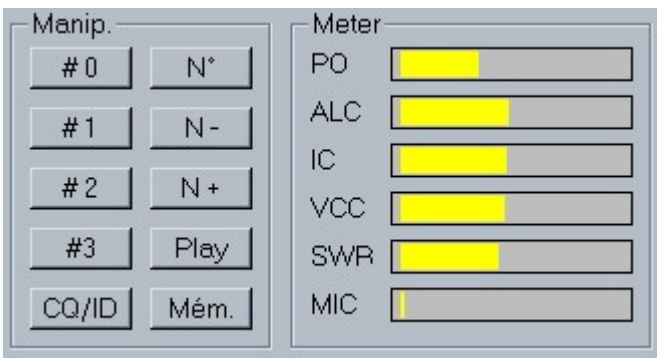
The **Default** button allows you to quickly send your **EDSP Default** settings (**Tools/EDSP/Defaults**).

The **Initialize** button allows you to retrieve the control via CAT if you lose it : remember that the FT-1000MP comes back to its internal settings each time you change a condition from the rig (TRX-Manager is only able to detect modes and TX/RX changes).

Each time the program sends EDSP CAT commands to the rig, the word **EDSP** will be prompted in the receive or transmit window.

When you close the RX or TX EDSP windows, the program stops controlling the EDSP.

The TX-EDSP window also allows you to control the FT-1000MP internal **electronic keyer** and displays some meter data.



For better results

We suggest you follow these instructions before starting the CAT EDSP control:

1. Open the **Tools/EDSP/Defaults** dialog box
2. Enter the exact same settings that your current **EDSP** settings are.
3. Click **OK**
4. Open **RX** or **TX-EDSP** windows
5. Click the **Default** button
6. You are ready to use the EDSP control.

Possible problems

When testing the FT-1000MP, we found some malfunctions or incompatibilities in either the CAT commands or with some menu settings (it may depend on your ROM version):

- **CAT RX EDSP OFF** command doesn't work if RX-EDSP is ON and gives undesirable result (TRX-Manager does not use this command)
- **CAT RX EDSP AM/SSB-W/SSB-N** doesn't work if RX-EDSP is OFF and gives undesirable results.
- **CAT TX-EDSP OFF** command has a bug (but we found a fix)
- **CAT FSK** AF filter not working
- **CAT AF** audio equalization - bank 4 not working.

Note that you may experiment yourself with the EDSP CAT commands by referring to the Yaesu manual and using the CAT Commands window.

In some cases you may have a loss of audio (especially with RX-EDSP settings). Don't panic, you just have to switch EDSP ON/OFF from the rig. The TRX-Manager's interface should help you to avoid these conditions and to enjoy CAT EDSP control!

Operation with FT-757GX

This section applies when using with the FT-757GX Transceiver only (and not the FT-757GXII).

The FT-757GX has very few number of CAT control commands. Notably, it is not possible to read the transceiver status (selected frequencies, modes…) and it is not possible to set the mode from the computer!

The only CAT commands are : frequency selection, memory operation, toggle from A to B, Band up/down by 500 Khz step.

TRX-Manager was modified to work with this transceiver the best as possible. But note that any change made from the FT-757GX is not displayed by the computer.

When opening the monitoring windows for the first time, the frequency is 0 MHz: select any valid frequency from the computer to synchronize both displays.

The Short Wave data base and Web cluster operations are possible but you have to **select the mode manually prior to selecting the new frequency from the computer!**

Operation with FT-767GX

This section applies for use with the FT-767GX Transceiver. You may run the program as follow:

CAT Control Mode

To be under **CAT control** you must press the CAT button (located on the toolbar) or the F9 key. When the transceiver is under CAT Control you will not be able to set things from the transceiver's front panel (as frequencies, mode, functions, etc.) In order to gain **manual** control, you have to press the CAT button on the toolbar or F9 again to release the CAT control mode.

The CAT control is only active when the CAT button looks as if is depressed. The CAT light on your transceiver's front panel will also be illuminated when under CAT control. CAT control is released upon program shutdown, but it is a good idea to make it a habit when you shutdown the software BEFORE shutting turning off the transceiver.

However you may set a DX Spot or a SWL frequency without setting on the CAT Mode.

The Monitoring shows a **variable tuning control.**

> **Warning**
>
> During CAT Control, manual control is NOT possible!

Limitations

No S-Meter function

Not available through the FT-767GX CAT interface, therefore the Band Scope is not available.

Filters

Filters are not controllable via the CAT system.

Memory channels

CTCSS tone data are supported (**FT-8** tone squelch unit required). However, you have to manually switch on the **T Enc** or the **T SQL** function from the front panel. **Warning : if you don't own the FT-8 unit do not check Enc or Dec !**

Tuner

Tuner functions and status are not controllable via the CAT system.

Operation with FT-817 FT-857 FT-897

This section has been written by **Rich KOFUN**.

Due to the available CAT Codes provided by Yaesu there are some limitations in the interface provided by TRX-Manager with the FT-817/857/897. The best way to understand what is possible is to take few minutes and review the available CAT Commands on page 72 (FT-817) 62 (FT-897) 115 (FT-857) of your operating manual.

Operational Notes

VFO A/B

With the CAT Codes it is only possible to switch from one VFO to the other. There is no way for TRX Manager to read if the FT-817/857/897 is on VFO A or VFO B. The TRX Manager interface has been modified to reflect Active vs. Standby VFO. If it is important to identify VFO A vs. VFO B you will need to monitor which VFO is active on the FT-817/857/897.

Memory channels

Direct FT-817/857/897 Memory Manipulation IS NOT POSIBLE : There is no CAT Code to Read or Write to the Memory Banks of the FT-817/857/897. TRX Manager has a separate set of Memories, which may be manipulated and saved to disk as described elsewherein the TRX Manager Help Files. TRX Manager does provide several short-cuts to loading FT-817/857/897 Memories as described in the Operating Tips Section and supports FTBasic's memory file which allows you programming the FT-817/897 using the Clone mode.

VFO C (Channels) Loading Procedure : The limited access to VFO functions of the FT-817/857/897 requires some rather complex code to load the TRX Manager Memory Channels to the FT-817/857/897:

1. Assuming you have loaded several memory channels on TRX Manager, press the Up Arrow adjacent to VFO C.
2. The contents of the memory you are moving to will be loaded into the Active VFO.
3. Toggle from Active to Standby VFO.
4. The previous Active VFO Frequency will be reloaded.
5. Drag the Contents of VFO C to the Active VFO. It will be loaded to the Active VFO.
6. Drag the Contents of VFO C to the Standby VFO. It will be loaded to the Standby VFO and the Standby VFO will be toggled to Active VFO.
7. The previous contents of the Active VFO are maintained in the Standby VFO.

This is actually quite intuitive when after you experiment with it.

The Memory Channels may also be loaded to the Active VFO from the Memory Channel List Window. It is also possible to Edit the contents of a Memory from this window.

FT-817 WILL NOT TURN ON

Due to interaction between TRX Manager and the FT-817 if TRX Manager is running prior to turning on the FT-817 the Power Button on the FT-817 is disabled. This is easily corrected:

1. Turn off TRX Manager or the CAT Button (not available with FT-857/897)
2. The CAT Button on TRX-Manager may also be used to turn the 817 Off and On

Narrow CW Filter

There is no CAT Command to set Filters on the FT-817/857/897. The Narrow CW Filter Setting in the Parameters - Preferences - FT-817/857/897 - Filters Screen does not any effect.

Operating Tips

Preferences

Use the Parameters - Preferences - FT-817/857/897 Panel to set the following:

- S-Meter - You may want to calibrate your S-Meter with the S-Meter on TRX Manager. I found mine to be accurate by adjusting the slider three notches to the left of center.
- Repeater Offset - Set to correspond to you local offset.
- Band Plan - You may want to adjust the Band Plan to accommodate your use of the FT-817/857/897. (i.e. 160 Mtrs US Plan, Receive AM on Short-wave Bands, etc.)

Loading FT-817/897 Memories from VFO Module:

1. Turn off the Commands and the Monitoring Panels
2. Activate the VFO Panel
3. Set Frequency, Mode, Repeater Offset, CTCSS as required.

4. Load FT-817/857/897 Memory as described in the manual

Loading FT-817/897 Memories from TRX Manager Memory Files:

1. Setup a Block of Memories on TRX Manager or Recall a Memory File. I find it helpful to store Memories in Blocks of 20 so I may load an FT-817/857/897 Group as required. (i.e. SWL Group, St. Louis Repeaters, Chicago Repeaters, QRP Frequencies, etc.)
2. Turn off the Commands and the Monitoring Panels
3. Activate the Memories List Panel
4. Recall the desired Memory, Edit as required.
5. Load FT-817/857/897 Memory as described in the manual

These techniques provide you with a relatively quick way to load the operational data to the FT-817/857/897. Loading the Memory Tag on the FT-817/857/897 still has to be done manually.

Operation with the FT-847 FT-736 FT-212/412

This section applies to the use with the FT-847 FT-736 FT-212/412 transceivers

Note that unlike other models the FT-847 requires a **null modem** serial data cable. Check the menu (**#37**) on the 847 and adjust the CAT rate at the **Setup** speed (4800, 9600 or 57600 bauds).

The FT-736/212/412 require a standard interface and cable.

CAT Control Mode

To be under **CAT control** you must press the CAT button (located on the toolbar) or the **F9** key.

The CAT control is only active when the CAT button looks as if it is pressed. The CAT light on your transceiver's front panel will also be illuminated when under CAT control. CAT control is released upon program shutdown, but it is a good idea to make it a habit to shutdown the software BEFORE turning off the transceiver.

Split mode

The FT-847 and the FT-736 are featured with a **Split** mode but this feature is not accessible via the CAT System. However, TRX-Manager implements a specific Split mode ; this Split mode is only available if you switch to TX via the program (**Key**button Monitoring).

Memory channels

Memory channel operation is not accessible via the CAT system. However, TRX-Manager implements the same interface as for other transceivers and gives you **99 virtual memory channels**. These channels are unrelated with those of the transceiver. In addition TRX-Manager supports FTBasic's memory file which provides programming of the transceiver using the Clone mode.

Please note (as for other transceivers) that the Automode feature is disabled when working with the memory channels. Switch to the VFO mode (press the **A**button of the monitoring window) to enable the Automode feature.

DCS and **CTCSS** encoding are supported (see Repeater settings)

FT-736 (and FT-212/412)

When the transceiver is under **CAT Control** you will not be able to do certain things from the transceiver's front panel (as frequencies, mode, functions, etc.). In order to gain **manual** control, you have to press the **CAT**button on the toolbar or **F9** again to release the **CAT control** mode.

Any monitoring is not possible.

It is not possible to retrieve from the **FT-736/212/412** current operating conditions. Consequently, you may have a slight difference between transceiver's display and the PC's display, even when controlling the transceiver from the PC, and of course a big difference when controlling the transceiver from its front panel!

The FT-212/412 only support setting up of Frequency, CTCSS (Enc, Dec, Tone) and TX/RX switching. All other commands are not supported.

FT-847

If you own one of the early firmware versions, no monitoring is possible. In this case TRX-Manager quickly displays **NO DUAL** when you press the **CAT** button. You may contact your Yaesu dealer to upgrade the CPU.

When under **CAT control**, manual control is still possible. **But if the FC-20 antenna tuner is connected and switched ON, CAT control is not possible.**

The optional YF-115C 500Hz filter corresponds to the 250 Hz command.

Saving and loading the configuration (FT-847)

Via the cloning function of the FT-847, it is possible to save the whole configuration of the transceiver on hard disc and to recall it.

Warning

Leave the CAT mode (CAT OFF) to carry out this function.
Check the speed for the clone mode : #94 (CLN RATE) so that it is identical at the speed of Setup of the program ; preferably use a high speed (57600 bauds).

Saving a configuration

1. open the **Transceiver/Save Configuration**submenu ,
2. choose a file (**.847** as extension), press **Save**
3. select the menu **#95** of the transceiver (**SEND CLN**), then press key **MCK/W**
4. then press the **OK** button of the dialog box,
5. once the transfer on disc carried out, the program confirms the save.

Loading a configuration

1. open the **Transceiver/Load configuration**submenu ,
2. choose a file (**.847** as extension), press **Open**,
3. select the menu **#96** of the transceiver (**RCV CLN**), press key **MCK/W**,
4. then press the **OK** button of the dialog box of the program.

Operation with FT-980

This section is only for use with the FT-980

Limitations

The **FT-980** was one of the early transceivers featured with a **CAT Control** system. So there are some differences between the FT-980 and with later models of Yaesu CAT transceivers :

- no dual control : you have to choose between **CAT Control** or **Manual Control**,
- **no S-Meter** (Band scope is not available)
- **no dual VFO system** : the split mode uses a memory channel
- two VFO's for **GEN**eral coverage or **HAM** coverage
- tuner functions and status are not controllable via the CAT system.

Note : you may have to disconnect the PIN 4 of the DB9 plug (FT-980) to prevent the RIG from keying during CAT Control.

CAT Control Mode

To be under **CAT control** you have to press the **CAT** button (main toolbar's button) or the **F9** key. When the transceiver is under CAT Control you may not change anything from the transceiver (as frequencies, mode…). You have to press CAT or F9 again to leave the CAT control mode.

When you run TRX-Manager for the first time after the XCVR was OFF, you may have to press one or more times the CAT button before the CAT Control starts, or wait a few seconds. The CAT control is only effective when the CAT button looks as if is **depressed**.

Memory channels

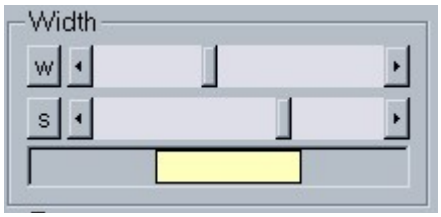
Through the CAT system, the FT-980 is provided with 16 memory channels (not 12) ; However when the software is reading the memory channels content for the first time (after the FT-980 was OFF), the reading is false. You must change the memory content through the software to reestablish a correct reading.

Split and QSX

The split modeuses a memory channel. During the split operation TRX-Manager uses the current memory to store the TX frequency (this frequency may be recalled from the QMB).

IF Shift IF Width

One interesting feature of the FT-980 is that **IF shift** and **IF width** may be controlled from the PC. You have to drag the two corresponding sliders (monitoring) and move them to change the shift or the width. The **w** and **s** buttons centers the settings. A graphic readout is provided to see the current bandwidth and IF shift.



Note the following bug of the FT-980 Yaesu CAT control system : when you run TRX-Manager for the first time after the XCVR was OFF the **Width** is not updated.

HAM and GEN VFO

By default TRX-Manager uses:

- HAM for DX-SPOT frequencies
- GEN for S.W. frequencies
- HAM or GEN according to the frequency range for other settings.

Please note that the FT-980 CAT sytem doesn't allow you to enter or to change the clarifier frequencies.

Operation with FRG-9600

This section applies for use with the FRG-9600 Receiver.

The FRG-9600 is poorly equipped in CAT commands. The only available CAT commands are the transfer of a frequency or mode FROM the PC to the FRG-9600. It is thus impossible to read the status of the receiver (frequencies, modes…) or the S-Meter (at least in a digital way). It is also not possible to up/download the memory channels.

TRX-Manager was modified to present the most complete possible interface with this receiver taking into account these characteristics. But attention: if the changes of frequency operated from TRX-Manager are correctly displayed, any manual modification of the state of the receiver is not reported.

Monitoring

When opening the monitoring window, the displayed frequency is equal to zero… Select any valid frequency using the cursor or the keyboard to set the receiver.

Filters and modes

The **CW** mode does not exist on FRG-9600. The **CW** selection involves the **USB** mode. For the **AM** and **FM** modes, it is necessary to fill in the **Preferences** under **Transceiver** tab with regard to the **filters** really available (select **narrow FM** preferably).

Channels reports

TRX-Manager implements 99 virtual channels without relationship with the internal channels of the FRG-9600.

Operation with FT-450 to FTDX-9000

This section applies for operating TRX-Manager with the FT-450 FT-950 FT-91 FT-2000 FTDX-3000 FTDX-5000 FTDX-9000 Transceivers. TRX-Manager only supports the latest firmware (PEP) versions; early versions are no more supported.

Setting up your transceiver

It is recommended to use the maximal available CAT speed (38400 bds). RTS is selectable (recommended if it is correctly supported by your hardware).

FTDX9000(PEP): 38400 bds
FTDX5000: 38400 bds (menu #32). Other settings are menu #33=10, menu #34 (RTS) = Enable
FTDX-1200/3000: 38400 bds (menu #38). Other settings are menu #39=10, menu #40 (RTS) = Enable
FT-2000(PEP): 38400 bds, menu #27 = 38.4). Other settings are menu #28 = 10, Menu #29 (RTS) = ON
FT-450D: 38400 bds, menu CATRATE =38400, menu CAT TOT = 10, menu CAT RTS = ON
FT-950(PEP): 38400 bds, menu #26 = 38.4). Other settings are menu #27 = 10, Menu #28 (RTS) = ON
FT-991: 38400bds, menu#31=38400, menu #32 CAT TOT=10msec, menu #33 CAT RST= Enable

If you use the internal USB adapter or the rig (or the SCU-17 USB interface), please make sure to choose the **enhanced driver.** The standard driver can NOT be used for CAT control (it activates FSK and PTT by default...).

Setting up TRX-Manager

Don't forget to set up TRX-Manager with the same CAT speed (**38400**) and **RTS** checked (if selected on your transceiver).

Polling: **Not checked** (default) is the best way to control these transceivers by taking advantage of the automatic notification of status changes of the rig. Only if you encounter erratic communications (as with some of the early rigs tested), you may test a periodic polling by checking the Polling option. If polling is checked, the auto information function is disabled and a constant but limited polling is engaged (the Levels window does not automatically update in that case).

Note about the auto-information mode (polling disabled)

Auto-information (polling disabled) avoids any periodic pollings, allows a very stable and smooth operation from a computer. It is also highly useful in remote mode (using a serial server) by minimizing the commands send by the computer. Using a serial monitor, you can check that TRX-Manager never sends unnecessary polling commands.

During operation and if necessary (if it happens that the rig stops sending status changes) you may press the Monitoring's ***update*** *button* *at any time to re-activate the auto-information function and update the display.*

Possible problems

Shift of the frequency when selecting a CW spot: If you notice a shift of the frequency (=Pitch/BFO) when you select a Spot after a band+mode change (i.e CW/40m->USB/20m), please use the CW FREQ DISPLAY transceiver's menu to cancel this shift.

Scanning does not stop: During a scanning (SC command), the firmware does not respond. Frequencies are not displayed and it is not possible to stop scanning by sending SC0;

Bad communication: Please ensure that **RTS** (Transceiver and TRX-Manager) are matched. While RTS=ON (RTS checked) is generally recommended, depending on your hardware, you may have better results with RTS=OFF (RTS Unchecked).

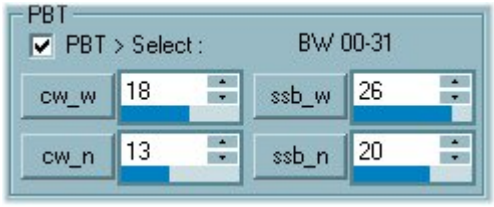
CTCSS/DCS: Command to write CTCSS code into the memory channels is not provided by Yaesu, command to set DCS code (VFO or Channels) is not provided by Yaesu.

Preferences

Bandwidth of default filters (Narrow/Wide) must be defined from the **Preferences/Transceiver** dialog (**DSP** frame). Please check **DSP/PBT Enabled** in order to activate the automatic filter selection according to mode changes. See also Modes and Filters.

FILTERS (FTDX9000 FT-2000)

You can not select the bandwidth directly; you have to set up the **P2** parameter of the **SH** CAT command for each filter from 00 (Narrow) to 31 (Wide). These values may differ from one rig to another. The CW_W.. SSB_N buttons allows you testing the parameters directly from the Preferences panel.

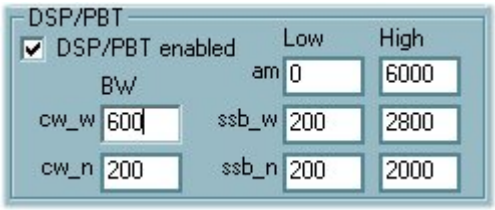


P2 parameter (SH Command)

Note: Bandwidths displayed by the program are only approximations.

FILTERS (FT-950 FT-991 FTDX-5000 FTDX3000 FTDX1200)

You select the values directly in Hz from the Preferences panel (CW : bandwidth, SSB : bandwidth = High-Low). Depending on the supported bandwidths, the program selects the nearest possible bandwidth and the nearest IF Shift value ; consequently, you may have to adjust these parameters carefully to suit your requirements.



All values in Hz

How band settings are preserved ?

TRX-Manager preserves all band settings (DSP, IPO, ATT, NB... per band) after a frequency change. However, the default filter (for the mode) applies if this option is selected (Preferences: DSP/BPT checked).

Operation

Power On/Off

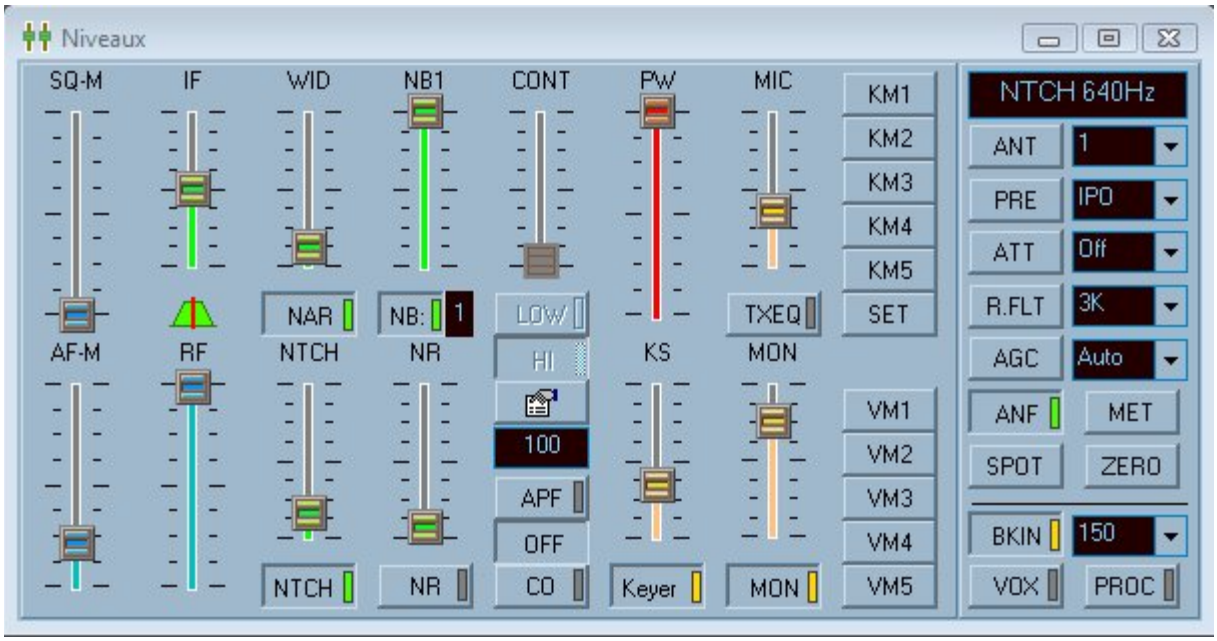
Power On/Off function (CAT button) is supported. Please always power on from the computer if the rig is OFF at startup. However, in some cases, il may be difficult to *wake up* the transceiver. TRX-Manager features an auto-power on/off function that you can activate from Setup.

Dual RX transceivers (FTDX-5000 FT-2000 FTDX-9000)

- ***VFO A*** - ***VFO B*** *buttons select the* ***VFO*** *and the* ***functions*** *under control (Monitoring and Levels windows).*
- *The S-Meter is always displayed for the main receiver (VFO-A).*

Levels window

The Levels window allow controlling most of the current and useful functions of the Transceiver (**Transceiver/Levels** submenu or Levels button from the Monitoring).



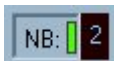
To control the sub-receiver's functions, select VFO B

Auxiliary Meter

From the Monitoring, below the S-Meter, select **YAESU** to display the auxiliary meter values. You may select the current meter using the **METER** button of the Levels window. Depending on the transceiver you are using, you may display one or two metering values at the same time.

Reading VDD

Noise Blanker

Levels window: clik the NB (**2/1**)number 

to set NB1 or NB2

Contour

You can set up CONTOUR (CO) with a PEAK or a NULL using the HIGH/LOW gain switches. Default values may be set using the **SET** button.

CW Keyer Memory (KM1-5)

TRX-Manager uses the type 1 mode (**Message TEXT**). You may set up macros to use the paddle mode.

Reverse CW

This section applies to **FT-990/890/900/840/1000D/767GX/757GXII.**

These rigs do no feature a CW Reverse function. For these rigs, TRX-Manager makes possible the reception of CW in LSB mode using split mode. Written for fun, you may find it useful ... or not!

How to use the CW Reverse function

First, it is necessary set up the correct **CW Pitch** from the **Preferences/Transceiver** dialog (range: 400 - 700 Hz).

Then:

1. adjust the operating frequency (VFO) for the selected pitch
2. press **Rev** (**commands panel** or monitoring window)
3. adjust **IF Shift (**1/4 clockwise) to center the signal (only if a narrow filter is in use)
4. press **Rev** again to reestablish normal CW mode.

It is still possible to offset the transmit frequency with the QSX command.

Please don't forget to reset CW-REVERSE before mode or frequency changes because the transceiver is switched in split mode.

Kenwood

Kenwood transceivers

This section is mainly related to the older **Kenwood** transceivers (TS-450, 850...).

See also

- TS-2000 TS-480 TS-590
- TS-990

General remarks

The **Kenwood** generic option (**Setup**) should function with any Kenwood transceiver (eventually not listed) but provides basic functions only and does not allow reading of the data sent by the transceiver. Except for special needs or tests, do not select Kenwood but **please select the exact model you are using (i.e TS-XXXX)**.

The highest CAT speed is recommended.

About RTS and Handshaking

For all speeds from 9600bds and above, RTS (Setup) must be selected in order to support the Kenwood Handshaking protocol. In such case CW Keying or PTT switching is not possible using the RTS line. If RTS enabled is required for Handshaking, TRX-Manager disables any settings for PTT or CW Keying made using the RTS line and re-assign RTS to handshaking.

Dual Control (if available) is usually checked - unchecked only if you connect your Kenwood to your computer through a serial server (see also Disabling Dual Control).

Some Differences between models

R-5000 TS-940 TS-711 TS-811 and TS-440

The rigs require the **IC-10** accessory and the **IF-232C** interface. These rigs do not provide the selection of the filters or the reading of the S-Meter and therefore prevents the bandscope from working.

CTCSS Tone

Only TS-850 TS-950 and recent Kenwoods provide the selection of a CTCSS tone ; **TS-450** and **TS-690** provide **On/Off** setting of the tone but, curiously, not the **TS-850**!

TS-790

TRX-Manager uses Offset (RPT+/-=) for channels 00-29 and Split frequencies for channels 30-59. While there is no way to set up the repeater Shift by computer, you have to enter valid Shifts (i.e: a negative value for a negative Offset) to initialize the program and for compatibilty between data.

S-Meter and Band Scope may (sometime) not work properly.

Tuning steps

TS-450 TS-690 and recent Kenwood provides automatic selection of the tuning step : fill in the **Fine Tuning** frame under Preferences/Transceivers for **Phone** and **CW/Data**.

Filters and advanced functions

With TS-850 TS-950 and recent Kenwoods, you may couple the filter selection with the variable bandwidth filter (see Modes and filters).

Many levels and functions are adjustable from the **Transceiver/Levels** panel.

CW Keying viat the CAT Port

With TS-480/570/590/870/TS-2000 direct CW keying via the CAT port is supported (see CW Interface).

Use of the channels

The Kenwood transceivers generally defines two frequencies for each channel: the receive frequency and the transmit frequency (Split). TRX-Manager takes this into account ; the channels editor allows you to enter the Shift between the two frequencies (whatever you have to introduce a repeater Shift or simply different values for RX and TX). This information may be also particularly useful for the introduction of the limit of the program scan function (channels 90 to 99); for example to scan from 14.00 to 14.35, it is necessary to introduce 14.00 as the frequency and 350 KHz as the Shift.

With TS-790 (channel 00-29) and TS-2000/480/590 you may define a repeater Offset (-/+/=).

These functions are not supported by the current TS-990's driver.

Important Notes

Old rig: The selection of **Wide** filters (6K or 12K) is not possible in **SSB** or **CW**. The selection of **Narrow** filters is not possible in **AM** and **FM**.

The repeater's **Offset** itself is not accessible on most Kenwood transceivers (recent rigs excepted); entering a repeater shift in a memory channel initializes the associated split frequency (see above).

It may be, after having selected a channel from the PC, that **it is not possible to select a VFO** from the transceiver ! It is then necessary to restart the program and to select a VFO... To limit this nuisance being repeated, TRX-Manager switches to VFO before closing the serial port.

The **Clear** function may make the RIT button not working properly. It is suggested to center the RIT button then to press on Clear to return to normal operation.

TS-2000 TS-480 TS-590S/SG

Kenwood **TS-2000 TS-480 TS-590S/SG** are particularly well suited to TRX-Manager. Fully controllable via a computer, they also have a front panel which takes advantage of the TRX-Manager's "*computer aided traffic*" concept. Consequently, TRX-Manager offers an alternative to the full control via computer.

> ***About TS-B2000***
>
> *TRX-Manager is NOT conceived as a substitute for ARCP software and TS-B2000 is not fully supported (this is why TS-B2000 does not appear in the list of supported rigs). However, TRX-Manager may be used with TS-B2000 for DXing in real-time while Kenwood's ARCP software will be required for permanent settings or some specific operations.*

Setting up your transceiver and TRX-Manager

It is recommended to set up the Transceiver for the highest practical speed. It is necessary to boot TRX-Manager and the Transceiver after each change of the communication speed.

It is also recommended to set:

- Transceiver's Auto Mode = OFF ([FUNC] [LSB/USB/AUTO])
- Frequency Correction USB/CW = OFF (Menu #37 TS-2000)
- Beeper = OFF (Menu # 12 TS-2000)

From TRX-Manager's Setup, please select **TS-2000 or TS-480 or TS-480HX or TS-590S or TS-590SG** and check **RTS**. The highest available speed is recommended : 56700 (TS-2000) or 115200 (TS-480 590S/SG).

Due to the extended control capabilities of these models, TRX-Manager may be configured for two modes of operation (**Setup**):

TS-2000, TS-480, TS-590S/SG :

1. **Auto Information checked** (recommended) : if Auto Information is checked, the transceiver automatically sends notification of all parameter changes to the computer (*). This mode is recommended because it is the more efficient and display is very fast. However, collisions between commands may (rarely) cause some errors in the display.
2. **Auto Information unchecked** (polling mode) : if Auto Information is not checked, TRX-Manager polls the transceiver at regular intervals (polling). This mode slows down the program and the computer but communication errors are almost impossible. For this reason, this mode is preferable if the transceiver is to be remote controlled (i.e when using the TRX-Manager's remote control ability).

IP Port is usually unchecked. This option provides control of the com port via IP.

> **Warning**
>
> Please note that when a menu is activated on your transceiver, commands via PC are ignored (except commands related to this menu): make sure to exit the menu after each change.

> **Alternative setup for TS-590S/SG**
>
> TS-590S/SG/480/2000 share a similar driver and **TS-590S** or **SG** are listed in setup. Just for fun, you may select the TS-990 driver by directly typing **TS-590** (instead of TS-590S or TS-590SG) in the Transceiver combo box; TRX-Manager will sense your TS-590S or TS-590SG automatically. Layout is different and you may find it more convenient (?), however some features (like Memory channels read/write) are not supported.

Menus

Some critical menu items are accessible via TRX-Manager but not via a menu but by using contextual dialogs, preferences, etc... in addition some of them are programmable by band giving more power to computer control.

The main entry point for most advanced functions is the **Levels** window (see below).

Switching On/Off

The button of the main toolbar (or the **F9** key) alllows switching ON/OFF the Transceiver. In addition, options for ON at Startup or OFF on exit are available from Setup/TRX... tabs.

Monitoring

If **Auto Information** is checked (Setup), the Refresh button polls the transceiver in order to fix errors in the display :

The **Levels**button (or the **Transceiver/Levels** submenu) opens the Levels window.

The **DISP** button sets up the **sub receiver** from the Monitoring window.

The **TF-Set** function is supported by the **TFS** button. In addition, if you give the focus to the TFS button (by pressing it once), the keyboard's space-bar toggles the TF-Set function ON/OFF.

TS-480 TS-590S/SG (PTT)

The TS-480/590S/SG transceivers offers two modes for PTT: PTT for MIC Input (TX0;) or PTT for ANY input (TX1;). By default TRX-Manager uses TX0; If your audio line is connected to the accessory jack, you have to set up a macro (TX1;) for keying SSB.

Sub Receiver (TS-2000)

From the Levels window, the **ON** button sets up the sub receiver ON/OFF while the **Sub** button toggles Control+PTT from Main to Sub. From the Monitoring, the **Disp** button toggles the display from Main to Sub and gives you access to specific functions of the sub receiver (CTRL, PTT, Bands and Mode).

While the sub receiver has the control, you may use the **Edit/VFO** window (**F2**) or the Up/Down buttons, the keypad and the slider of the Monitoringto set a frequency but the Command Panel is disabled. To toggle from Memory mode to VFO (and vice versa), please use the **C** button of the Monitoring.

The Band Scope has the ability to scan the sub receiver.

Generally most of the commands or the modules affect the main receiver only. Consequently, when the sub receiver has the control, some informations (RX TX frequencies) or functions may be wrong or may have inexpected results.

Memory channels operation

TRX-Manager supports the 301 channels of the TS-2000 including **Labels** and the memory **Group** numbers (100 channels for TS-480 - 110 channels for TS-590S/SG).

- **Reverse** parameter of the Channel window is related to Mode (CW-R, FSK-R),
- **Skip** parameter skips a channel during a scanning (Lockout),

TS-2000

- *Channel 300 is the Call channel (it is not editable from TRX-Manager),*
- *RX-TX Split is converted into Repeater Shift in FM mode, you may select the groups to be recalled in memory mode from the Channel window,*
- *Group numbers are displayed for each channel under the Scancolumn of the Channels window. When you change a group number from the computer, the TS-2000's display takes this change into account but the change is not effective ! You have to boot TS-2000 in order to make the new group numbers effective,*
- *It is not possible to edit a channel opened in the sub-receiver : please deselect the memory mode of the sub-receiver before editing any channel.*

See also : Channels overview

Automatic configuration of the DSP Filters

TRX-Manager automatically configures the DSP filters according to the values defined under the **Transceiver** tab of the **Preference** submenu. Please check **DSP Enabled** in order to activate the automatic configuration and take care to fill in the desired values for the **Pitch** and repeaters **Shifts**.

If you own a **TS-480** and the additional SSB narrow filter is installed, you may check the **NAR1** option: the corresponding filter will be associated with TRX-Manager's **Narrow** selection (SSB/FM/AM only - selected by DSP in CW).

TS-590S

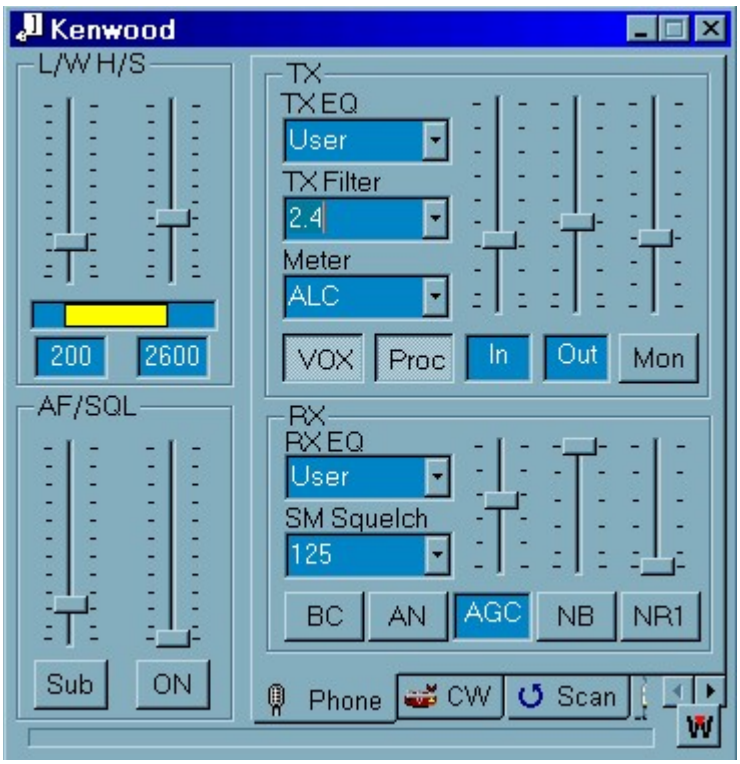
TRX-Manager memorizes the Filters A/B for each VFO. This is particulary useful in Split mode while you use the TF-Set function. To use this function you have to initialize the desired Filter for each VFO at startup either from the Levels window or directly from the transceiver and engage the AUTO Mode/Filter switching .

See also : Modes and filters

Levels window

From the **Levels** window (Transceiver/Levels submenu), you may set-up the transceiver's parameters or access some menus or functions in an intuitive way.

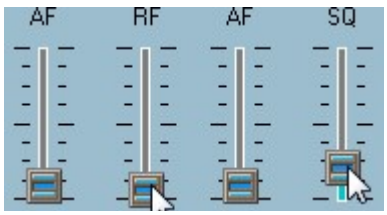
On the left, you will find **AF Level**, **DSP** and **Squelch** controls. The **Sub** button (TS-2000) gives the control to the sub receiver.



This window is updated when opening. Later, the **Refresh** button polls the transceiver and updates the display. However, if Auto Information is enabled, the levels (on the left) are updated in real-time.

AF/SQL or AF/RF controls

By default TRX-Manager provides controls for AF and Squelch levels. By right clicking the cursor of the **RF/SQ** Sliders, you may toggle from **AF/SQL** to **AF/RF** controls (AF and RF Gain levels):



Switching from AF/RF to AF/SQ

Phone Tab

From the Phone tab you can set up the parameters for RX and TX in phone.

CW Tab

From the CW tab you can set up parameters for RX and TX in CW. Please note :

- Text boxes allows you to set-up two CW messages (up to 24 characters) unrelated to the internal electronic keyer of your transceiver,

- A **Memory function** of the DSP filters is featured,
- The **Pitch=Shift** button shifts Pitch and IF-Shift simultaneously

Please note that TRX-Manager supports direct CW Keying of the Transceiver via the CAT port. You have to check the **Internal**option (Setup/TRX tab) to enable direct CW keying via the CAT port (see also CW Interface).

Scan Tab

The Scan tab provides settings of the transceiver's scanner. Conventions and functions are the same as those of the transceiver's manual. It is recommended that you read this manual to understand the different scanning modes.

Misc tab

The **Misc** tab provides setting of the TS-2000' internal TNC. The Misc tab also provides RF Power setting and Antenna selection.

Satellite mode (TS-2000)

The SAT module opens from the Tools/Satellite submenu.

TRX-Manager switches to Satellite mode by clicking the satellite (SAT) button

Once in Satellite mode, you can set up the Downlink or Uplink frequencies from the **Edit/VFO** (**F2 key**) or **Edit/Split** (**F3 key**) submenus. Setting up the satellite name is possible from the **Edit/Info** (Ctrl-I) submenu.

See also : Satellite Interface.

Internal TNC (TS-2000)

TRX-Manager supports the TS-2000's internal TNC and processes Packet Cluster data (**PCT** Mode).

- **PCT** Mode : the DX Spots are displayed under the DX Cluster tab of the **Terminal** window.
- **TNC** Mode (Terminal) : the

button of the Terminal's toolbar switches the TS-2000 into TNC mode. Please note PKT disables the CAT control until you toggle PKT OFF. PKT also disables the Terminal port of TRX-Manager.

About PCT Mode

While PCT mode is enabled, the commands of the menu (EX...) do not work: some controls of TRX-Manager may not work properly while PCT mode is activated (especially the linear amplifier control command...).

Remote control

Like all other transceivers, your TS-2000/B2000/480/590S/SG may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions.

In addition, you may also take full control over your TS-2000/480/590S/SG through a network using the real remote control mode: TRX-Manager behaves exactly like if the com port is locally controlled.

Limitations

TRX-Manager does not work exactly the same as the transceiver with Kenwood's ARCP software. When the sub-receiver has the control or in case of empty memory channels, TRX-Manager's behavior may be indeterminate and provide unexpected result.

TS-990S

The Kenwood **TS-990S** is particularly well suited to TRX-Manager. Fully controllable via a computer, it also have a rich front panel which takes advantage of the TRX-Manager's "*computer aided traffic*" concept. Consequently, TRX-Manager offers an alternative to the full control via computer.

Setting up your transceiver and TRX-Manager

It is recommended to set up the Transceiver for the highest practical speed. It is necessary to boot TRX-Manager and the Transceiver after each change of the communication speed.

It is also recommended to set:

- Transceiver's Auto Mode = OFF
- Frequency Correction USB/CW = OFF
- Beeper = OFF

From TRX-Manager's Setup, please select **TS-990S** and check **RTS**. The highest available speed is recommended : 115200.

If you use the internal CW Keyer of the TS-990S via CAT, you have to check CW Internal.

TRX-Manager may be configured for two modes of operation (**Setup**):

1. **Polling NOT checked** (recommended) : This mode enables Auto Information and minimizes polling. In fact no polling happen (except in memory channel mode and at startup). This mode is recommended because it is the more efficient and display is very fast. It is also best suited for remote operation whetever the remote mode you use but especially using a serial server.
2. **Polling checked**: this mode sets OFF auto information and and enables a polling for critical data. This mode is for testing purpose only and should not be used.

> **Warning**
>
> Please note that when a menu is activated on your transceiver, commands via PC are ignored (except commands related to this menu): make sure to exit the menu after each change.

Switching On/Off

The button of the main toolbar (or the **F9** key) alllows switching ON/OFF the Transceiver. In addition, options for ON at Startup or OFF on exit are available from Setup/TRX... tabs.

Monitoring

The Refresh button polls the transceiver in order to fix errors in the display and to reactivate the auto-information mode.

The **Levels** button (or the **Transceiver/Levels** submenu) opens the Levels window.

The **SUB** button toggles the active receiver. If the sub-receiver is active, all controls and displays (Levels window included) are related to the sub receiver.

The **TF-Set** function (TFS Button) is supported. In addition, if you give the focus to the TFS button (by pressing it), the keyboard's space-bar toggles the TF-Set function ON/OFF.

REV (Reverse) is related to CW/FSK/PSK and SSB Mode (USB/LSB). **DAT** allows cycling through the three data mode (D1-D3).

Auxiliary Meter

From the Monitoring, below the S-Meter, select **KENWOOD** to display the auxiliary meter values. You may select the current meter using the **MET (METER)** button of the Levels window.

Reading VDD

PTT

The TS-990 offers two modes of operation for PTT switching: PTT for MIC Input (TX0;) or PTT for ANY input (TX1;). By default TRX-Manager uses TX0; If your audio line is connected to the accessory jack, you have to set up a macro (TX1;) for keying SSB.

Memory channels operation

TRX-Manager allows switching to the current memory channel mode : use the small arrows near the C button to choose the current memory channel and press C or A/B to toggle between the memory mode and the VFO mode.

This version of TRX-Manager does not support reading/writing files of memory channels.

Levels window

The levels window allows controlling most of the critical functions. The labels being sometime small, please use the "touch help" to understand the meaning of the labels.

Sub Receiver

The Levels window controls the operating receiver. If the Monitoring's **SUB** button is pressed (or if the Sub Receiver is active), the Levels window control the sub receiver's levels. All display and commands are related to the active receiver.

CW Keyer Memory (KM1-5)

TRX-Manager uses the **Message TEXT** type. You can store data into the memory keyer using the **SET** button (only messages 1-5 are supported).

Remote control

Like all other transceivers, your TS-990S may be controlled through a LAN or the Internet using the standard remote control mode of TRX-Manager, but with limited functions.

However, the TS-990S is well suited for remote control using a serial port server.

Limitations

TRX-Manager does not work exactly the same as the transceiver with Kenwood's ARCP software. In case of empty memory channels or in memory channel mode, TRX-Manager's behavior may be indeterminate and provide unexpected result.

Elecraft K2 K3 K3S KX3

TRX-Manager supports the Elecraft K2 K3 K3S KX3 transceivers.

Settings (Setup)

K3 and K3S are equivalent (TRX-Manager automatically adapts).

It is recommended you set up the Transceiver for the highest practical speed (**38400 bds**) ; it is necessary to restart TRX-Manager and the Transceiver after each change of the communication speed. Please check **KPA3** or **K2/100** is the 100W module is installed (uncheck KPA3 or K2/100 if you use a K3/10 or a K2/10 or a KX3 alone).

K3/KX3: TRX-Manager uses the extended format (K22 or K31) of the rig and the normal auto-information mode ; consequently, it is highly recommended you configure your K3/KX3 for **CONFIG:AUTOINF = nor** (TECH MD required). You may also prefer using your K3/KX3 and TRX-Manager with **CONFIG:SW TONE = OFF**.

With the **KX3**, if you don't have the KXPA100, set **PA MODE OFF** in order to reduce the flow of data on the RS232 port.

If you use TRX-Manager through an **RS232 Serial Server** (via the Internet or Intranet) or through the Larry N8LP's LPBridge program, you may have to check the **LPBridge, Serial server** option in Setup (not always) ; you can leave **LPBridge, Serial server** unchecked (default) if it works this way with LPBridge or your serial server since the serial server option limits the TRX-Manager's ability to detect state On/Off of the Rig and accuracy of the TRX-Manager's S-Meter. See also: Alternatives to the remote control function, Disabling the dual control mode.

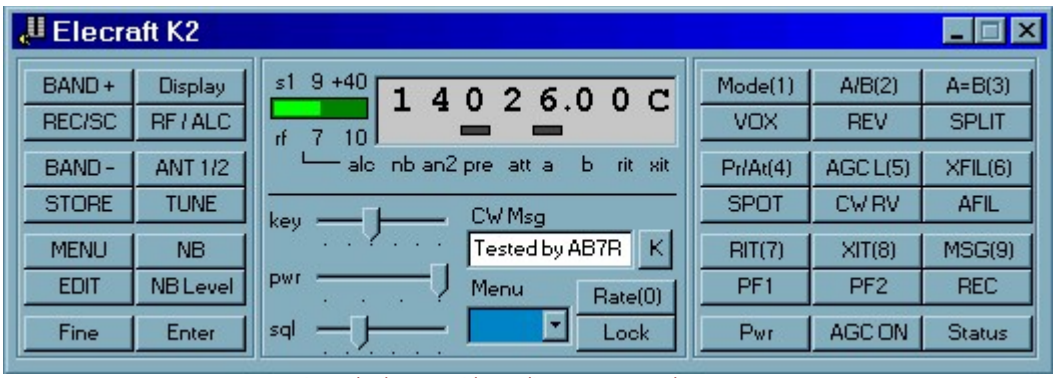
> ***About LP-Bridge***
>
> *LP-Bridge is NOT required with TRX-Manager: use the Synchro function (K3 Protocol) to synchronize TRX-Manager, your Pan adapter and PowerSDR-IF Stage or Nap3. Generally, this setup works much better.*

If **CW Internal** is checked in Setup (Internal Electronic CW Keyer of the Rig selected) you can use the CW terminal to send either CW PSK of FSK; but please note the **CW Internal** option overrides the choice of keyer made from the CW Tab (i.e if you use Winkey, do not check CW Internal!). However, whatever your choice, it will be always possible to send CW/FSK/PSK using the K3/KX3 since K3/KX3 levels window includes a small terminal (see below: data mode)... (what makes setup very flexible but not simple to understand!).

See also: Synchronization with PowerSDR-IF Stage or NAP3 using the K3 Synchro mode

K2

A special window (**Transceiver/Levels**) provides emulation of the Elecraft K2's front panel. The display of the window reflects the display of the rig with some limitations. To use this window suitably and to have the best possible interactivity with the transceiver, it is recommended to simultaneously open the Monitoring window.



A combo box provides a direct access to the menu.

> ***Notes***
>
> - *The AF GAIN and RF GAIN controls cannot be emulated,*
> - *During edition of a menu or a frequency (direct entry), the TRX-Manager's display is not updated by the transceiver.*

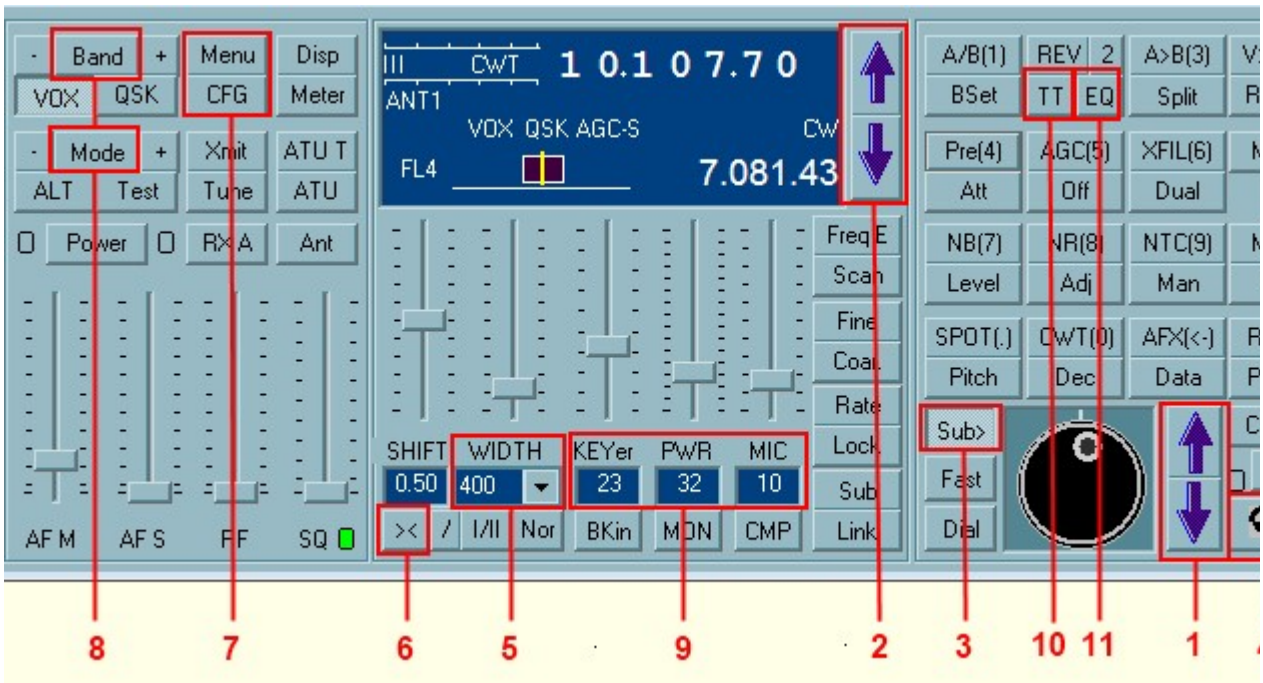
K3/KX3

In case of the RIG is OFF while TRX-Manager is started, once the rig is powered ON, you may have to press the **Update** button of the to re-initialize the communications:

Monitoring's Update button

Levels window

A special window (**Transceiver/Levels**) provides emulation of the Elecraft K3's or Elecraft KX's front panel. The display of the window reflects the display of the rig with some limitations. To use this window suitably and to have the best possible interactivity with the transceiver, it is recommended to simultaneously open the Monitoring window.

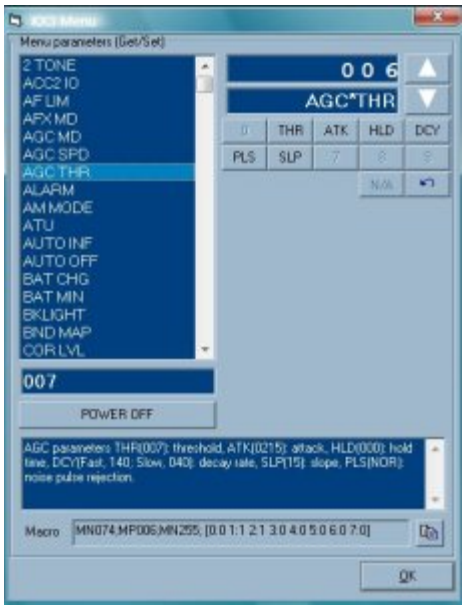


K3' virtual front panel (KX3 is different)
Colors follow Monitoring's Configuration

As the Elecraft K3 KX3 are still in development, some of the functions may be inactive; moreover other functions may be added in the future depending on the firmware development.

Some functions require special comments:

(1) (2) Up/Down buttons allows step by step frequency changes and to navigate through the K3's menus
(3) SUB swich allows you to toggle the VFO Knob from A to B VFO control
(4) This button allows polling the K3 for instant update of the display if it does not update automatically
(5) The two combos allows you to select a preset DSP bandwidth for Main and Sub receivers. The SHIFT/WIDTH button toggles to the HI/LO Cut mode. Please note HI/LO Cut mode in TRX-Manager is only a simulation which uses the only available CAT functions WIDTH and SHIFT. Consequently difference may appear with the display and behavior of the K3.
(6) This button allows you to center the bandwidth (IF Shift = 0)
(7) MENU and CFG buttons open a list from which you click the desired sub-menu (TECH MD and RS232 sub-menus are NOT displayed). Items are sorted by alphabetic order. Click OK to exit the menu mode. Settings up the menu entries are done using UP/DN buttons or dedicated buttons if available. Warning : not all menu parameters are selectable... This is an issue of the K3/KX3 protocol, not of the program. This is often the case with sub-menus.



K3/KX3's menu

(8) BAND and MODE switch: Click BAND or MODE to open the Switch. On Switch select TOP to keep it "on top". You may of course use +/- button to scroll through modes and bands... like with a K3/KX3.

Band Switch

(9) Sliders with double function ; you may also double click the value for a quick and precise change ; press Enter to valid or Escape to cancel.
(10) TT Opens the Data/CW Terminal
(11) EQ Opens the Graphic RX/TX EQualizer

Please note:

- K3: REV(2) is splitted in two buttons: REV (hard coded) which reverses the VFOs (*) and 2 to enter a numeric entry . Generally other buttons do the same functions as those of the K3's front panel,
- VFO selection is definitely different on the K3/KX3 from the K2. VFO A is always a receive VFO. If you're in SPLIT mode, VFO B is the transmit VFO. If the subreceiver is turned on, it is controlled by VFO B, whether SPLIT is in effect or not.
- KX3: Levels window appeareance is different but functions are very similar.

*(*) It is, however, recommended using the Monitoring's **XFC** which implements a similar function but much more convenient in practice: First, give Monitoring focus by clicking this window or just the **F6** key; then while you hold **ESC** on keyboard (or hold the mouse down on Monitoring's **XFC**), K3 is switched to B-Set and you can tune with VFO B for quick search of the current operating station (like if you own the second receiver).*

Data modes

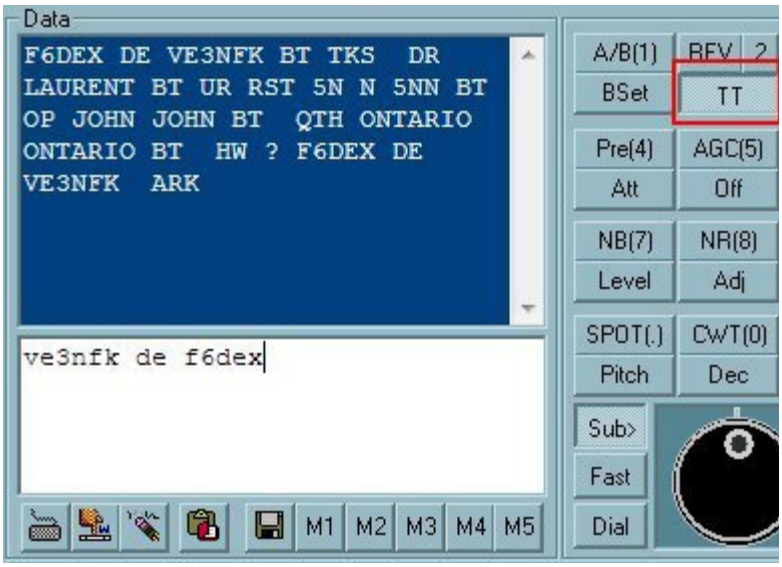
Mode selection

From the Monitoring window, you have a direct access to **PSK** and **FSK** while the **Dat** button allows you to cycle between the other data modes of the K3.

Decoding data and sending modes

TRX-Manager provides support for sending/receiving FSK CW and PSK using the embedded functions of the K3 from a small terminal included in the K3 window (not to be confused with the standard CW Interface, no specific setting is required to use this little interface).

The **TT** button (10) of the K3 window allows you to toggle TRX-Manager and K3/KX3 in **TEXT/Terminal** mode. You must enable the K3/KX3's Text Decode mode first (KX3/K3's **TEXT DEC** function) ; if TT is checked (from TRX-Manager), all text decoded by the K3/KX3 is forwarded via the RS232 port and displayed by TRX-Manager.



Keyer interface TEXT to Terminal (TT) mode

You may use this little terminal for sending text either in CW PSK or FSK! Just type your message and click **Enter** (or use character/word mode) but please don't forget to turn ON VOX since TRX-manager does not do that for you!

Buttons

Engages the **character mode** : the transmission starts immediately after you start typing your message. The **Enter** key quickly terminates the transmission (EOD)

Space bar = CR (Word mode) : message is transmitted **word by word** (each time you press the space bar). This mode is convenient for FSK and PSK (since character mode is not usable in these modes).

Clears the text boxes

Pastes the current callsign (highlighted string in the upper text zone) to the **logbook** and creates a new entry but does not save the QSO. **Double-clicking** the Callsign has the same effect and is faster.

Stops the transmission

1-16: Type a message in the lower text box, then click **Save** and the message number (CW Macros are supported). Press **1-16** to recall a message.

Limitations

- In TEXT Mode, CAT control may be partially disabled (depending on MCU version)
- The message length is limited to about 100 characters at 20 wpm in CW (depends on speed and mode); above this limit, the K3 may truncate the message, abort transmission or behaves abnormally
- The TEXT mode is not compatible with LP-Bridge (LPBridge option checked or not)
- Full editing is not supported by the lower text zone (only **BackSpace** is supported)
- To **STOP** the transmission you may also press your CW paddle.

See also

- True FSK/PSK Keying from the MMVARI module

Filters

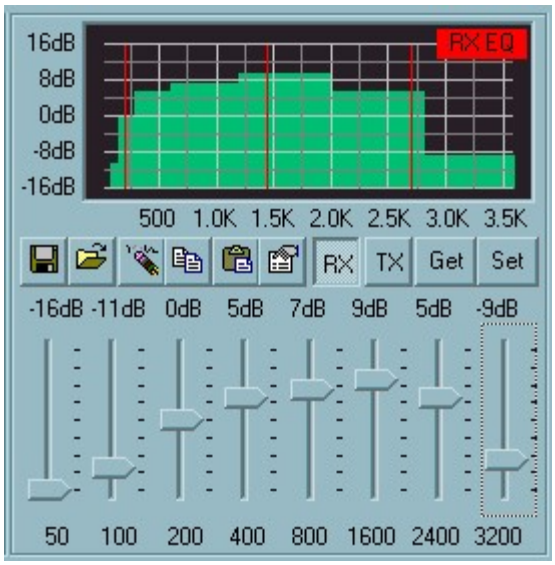
TRX-Manager implements two virtual DSP filters (**Normal** and **Narrow**) for each SSB/CW mode + a **Wide** filter for AM. Since TRX-Manager uses the DSP, you must check **DSP** under the **Preferences/Transceiver**tab and fill in the default values for each filter. See also Modes and Filters.

Monitoring's **Wid** and **Nar** buttons are related to the TRX-Manager's virtual DSP filters (not to the K3's X Filters).

Since TRX-Manager can not control the **CW Pitch** of the K3 (until now), it is important you fill in **Pitch** with the current value under **Preferences/Transceiver** in order to scale IF Shift range for CW and to center the CW Bandwith.

Graphic Equalizer

The **EQ** button (11) opens the Graphic Equalizer from which you can easily display the current settings and set up the 8 bands of the RX/TX Audio Equalization.



Equalizer (Bargraph mode)

Please press **GET** to read the current equalization from your K3. After a **GET** command, the program copies the current equalizer settings into the clipboard. If necessary press to reset your changes (unless the clipboard has been altered).

Press **SET** to set up your K3/KX3 using the data displayed ;

Saves the current Equalization (RX: .req files, TX:.teq files).
Opens a .teq or .req equalization file
Resets (clears data) each sliders to 0dB
Copies the current (displayed) Equalization into the clipboard. You may use this function to set up macros or to exchange your data with others...
Pastes clipboard values into the graphic
Opens the prperties dialog box (setting up of colors...)
RX/TX Toggles from RX <-> TX Equalization
GET Reads current Equalization (and copies the values into the clipboard)
SET Set up Equalization using displayed data

Notes

- *Data format (clipboard, files) uses the CAT command format: TE for TX Equalization, RE for RX Equalization (RE CAT command still not supported),*
- *While the graphic Equalizer is displayed and running, it is strongly recommended you do not make any manual change to the K3.*

Power On/Off (K3/KX3)

While the K3 and KX3 have a CAT command to **Power** the transceiver **OFF** (PS0;), they do not have a **Power ON** CAT command. Consequently, if you power your transceiver off using the **POWER** button of the program, you may be unable to power it on remotely...

However, Elecraft has provided a way to power the K3 and the KX3 ON remotely:

- K3: *A remote-control system can pull the POWER ON line to ground (ACC connector, pin 8) to turn the K3 ON.*
- KX3: *A remote-control system must place 8 to 12 volts DC on the mic jack's PTT line for 100 ms or longer.*

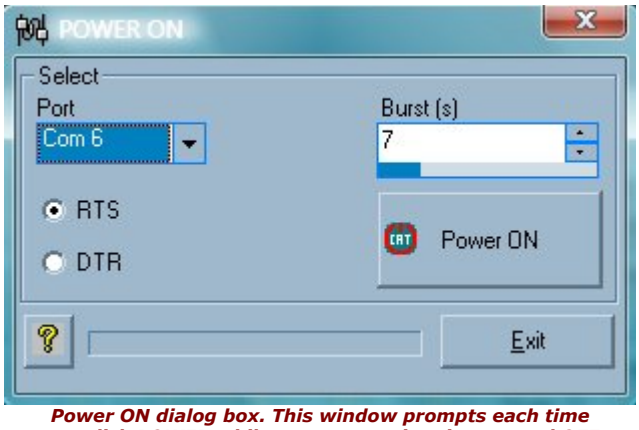
Warning

See the Elecraft manual for more accurate information and official reference.

So it is possible, from TRX-manager, using the DTR or RTS line of a com port and a small interface (built around a reed relay or a buffer and eventually a timer in the case of the KX3) to activate a dedicated line to power the K3 or the KX3 ON.

To set up this function you must have your transceiver powered OFF (TRX-Manager can take few seconds to detect the OFF state) and you click the **POWER** button (Levels window): a dialog prompts from which you choose the com port, the line to activate (DTR or RTS) and the duration of the **Burst** (signal). You can choose any **free com port** + the K3/KX3's com port

provided at least one line (**DTR** or **RTS**) is not selected in setup and available for this function. Once you configuration is done, you click the **POWER ON** button of the dialog to send the signal.



Power ON dialog box. This window prompts each time you click POWER while your transceiver is powered OFF

Spectrum analyser and Pan Adapters

Various options are possible:

- See TRX-Pan: A Panoramic Spectrum Analyser for SDR or Panadaptor connected to the IF output (Audio sound card and KXV3 required).
- See also Synchronization with PowerSDR-IF or NaP3 using the K3 Synchro mode (alternative to LP-Bridge)

K3/KX3 Graphic virtual control screens

K3 and KX3 have specific graphic control screens similar to their real front panels. Please use External/Elecraft FP Submenu to display the virtual front panel. Functions are very similar to the K3/KX3's front panel functions however difference may exist generally due to the limitation of the protocol.

Tuning methods

- Use left/right mouse clicks to turn the knobs to the left or to the right or the mousewheel (if the control get focus).

- RX Frequency tuning: use left/right mouse clicks on the RX Frequency digits while holding the mouse buttons or use the mouse wheel
- Tuning using the numeric keypad is supported
- K3: if the PAD button (near VFOB Knob) is pressed the numeric keypad tunes VFO B

Position and appearance

- This window opens outside the main window so that you can move it to another screen. Because of the use of a true graphic display, this windows is NOT resizable. However, the size must fit any screen (width<1024px).
- The window stays **On Top** depending on the state of the TOP button.
- In case of difficulty to restore this window from the taskbar, please use the TRX-Manager's **Windows** menu and click the button.

Remote control

Like all other transceivers, your Elecraft may be controlled through a LAN or the Internet using the standard remote control modeof TRX-Manager, but with limited functions. In addition, you may also take full control over your transceiver through a network using the real remote control mode : TRX-Manager behaves exactly like if the com port is locally controlled.

A particular experience by Karsten DL1QC: CW keying using Remoterig and TRX-manager

This is my configuration: from operator to antenna-side: Cw-paddle -> Winkey -> laptop -> TRX-Manager -> RRCMicro-DongRle -> Internet -> Remoterig RRC-1258 MkII ("Radio-modem") -> K3 -> Antenna

The character, generated by paddle-echo in the winkey-window of the trx-manager, is linked to the tt-terminal of the K3-window. With pressed button "keyboard" from the TT-Window the character is send as CAT-command to the remote-K3. With a latence from 500ms to 1000 ms the K3 is transmitting. Using the internal loudspeaker of the winkey-device is necessary to achieve zero-latency from paddle-pressing and generating CW-character. I muted the sound-monitor from K3 to get not confused in sending CW.

TenTec Transceivers

General information for all models (but Omni VI/VI+)

DSP Filtering

TRX-Manager implements two virtual filters (**Normal** and **Narrow**) for each SSB/CW mode + a **Wide** filter for AM. Since TRX-Manager uses the DSP, you must check **DSP** under the **Preferences/Transceiver** tab and fill in the default values for each filter. If the protocol does not give the ability to set the roll-off value of the DSP, only the total bandwidth is set. See also Modes and filters .

Memory channels

The program can write the memory channels and upload memory channel files but it does not read the settings of the channels. When you recall a channel from the program, its content is transferred into the current VFO. See also Memory channels.

Levels

You may set most of the available levels (AF, RF, from the **Transceiver/Levels** window. Please note, the program does not synchronize with the current settings at startup. If a slider is grayed out, the corresponding level is not available from a computer.

Omni VI and Omni VI +

For **Omni VI** and **Omni VI +**, please see the instructions for ICOM transceivers.

ORION

Behavior of Orion transceiver may be erratic with TRX-Manager ; please note **ORION is NOT listed as a supported rig**. You can test it at your own risk.

Please select **ORION** in the Setup's combo box. **DTR** and **RTS** must be checked and communication **Speed** must be set to **57600** bauds. Orion uses **hardware handshaking**: make sure your cable is wired for RTS Handshaking .

Almost all main programmable functions including DSP filtering and setting of the levels (AF, RF,Power, ...) are implemented. Automatic **DSP** selection must be set from the **Preferences/Transceiver** dialog.

While TRX-Manager has been tested successfully with different firmware, some users have reported a freeze of the front panel during computer control. If the ORION's control panel freezes, please try to uncheck **Polling** in **Setup.** Please note, in that case, any change done from the rig is not reported on the display. If necessary you may press the Monitoring's update button to update the display.

OMNI VII

TRX-Manager supports Omni VII in **radio mode**. Please select **OMNIVII** in the Setup's combo box. **DTR** and **RTS** must be checked and communication **Speed** must be set to **57600** bauds. OmniVII uses **hardware handshaking**: make sure your cable is wired for RTS Handshaking.

It is recommended you set up the Omni VII's Interface menu item to **SERIAL IF** and not Stepp/IR CT (while TRX-Manager supports both).

Almost all main programmable functions including DSP filtering and setting of the levels (AF, RF,Power, ...) are implemented. Automatic **DSP** selection must be set from the **Preferences/Transceiver** dialog. However, PTT function do not exist in radio mode.

EAGLE, ARGONAUT VI

These transceivers include an USB interface. USB cable is a standard device cable with small square connector on one end and rectangular USB to computer connector on the other (same as normally used for a printer.) Do not expect the TenTec optional Model 712 USB Soundcard Digital Mode Adapter Cable to provide proper connection for rig control and logging : it is used for digital soundcard applications.The most recent USB driver must be obtained from the TenTec web site and installed. Please follow instructions provided by TenTec to find the virtual com port number to be selected from the TRX-Manager's Setup screen.

Communication parameters are 57600 N 8 1. **RTS** should be checked.

Almost all front panel commands are supported by software (or interface) and are sufficient for good DXing (see the Programmers reference guide for more information about available commands: TRX-Manager supports all functions listed).

Note

if a DSP WIDTH command is sent from the program (using the DSP WID slider), the transceiver will no longer responds to changes using the BW DSP POT on the front panel (until the next power off/on cycle). Press the ***DEFAULT*** *button of the levels window to regain control from the DSP POT. From TRX-Manager, please note DSP slider's range is variable for each mode (AM/SSB/CW).*

RX320

Setup

Please select **RX320** from **Setup** and check RTS and DTR. Communication **Speed** must be set to **1200** bauds.

Unlike conventional tabletop or portable radio receivers the RX-320 contains no front panel controls. The receiver hardware relies entirely on an external controller to provide radio-like functionality. In fact, the receiver is controllable via its DSP : The DSP provides control over MODE, FREQUENCY, BFO, FILTER, AGC MODE, SPEAKER LEVEL and LINE OUTPUT LEVEL. In addition, the DSP can respond to requests for SIGNAL STRENGTH (S-Meter).

Current use

DSP

The roll-off value for **DSP** is fixed to 200 Hz.

BFO (CW)

The BFO may be adjusted by using the **Pitch** function of TRX-Manager (Edit/Pitch) or from the Preferences/Transceiver dialog. The default value is 600 Hz.

AF and Line levels

These levels are adjustable from the **Levels** window (Sub receiver level = Line level).

AGC

AGC is adjustable from the **Levels** window (1=Slow, 2=Medium, 3=Fast, Off not supported).

Argonaut V

Please select **Argonaut** from **Setup** and check RTS and DTR. Communication **Speed** must be set to **1200** bauds.

TRX-Manager supports the Argonaut V transceiver and almost all programmable functions including DSP filtering, Keyer Speed, NB, Attenuator ; the Argonaut V's protocol does not support setting of AF & RF levels.

Jupiter

Please select **Jupiter** from **Setup** and check **RTS** and **DTR**. Communication **Speed** must be set to **57600** bauds.

TRX-Manager supports the Jupiter transceiver and almost all programmable functions including DSP filtering, NB, NR, Attenuator, AF, RF, SQ Levels...

Alinco transceivers

TRX-manager supports the Alinco **DX-77** Transceiver.

Setting

Please choose generic model **Alinco** or **DX-77** (Setup). Speed is always fixed on 9600 bauds.

Limitations

It is not possible to upload the memory of the DX-77. The channels are virtual unrelated with the channels of the transceiver.

JST Transceivers

TRX-manager supports **JRC JST** transceivers and the **NRD-545** receiver with some limitations on program functionality.

Settings

Choose **NRD-535 NRD-545**, **JST-145** or **JST-245** from the **Setup** dialog box. Communications speed is fixed at **4800 bps** (see your manual in case of different speeds are supported). DTR is not checked. See your manual in case of the RTS protocol is required (if RTS is checked and RTS Protocol not supported, you may have a lock-up of the program). Restart the program.

Note : The generic **JST** Protocol is equivalent to the **JST-145/245** protocol, however with this setting TRX-manager will not read the data send by the radio.

Press the **CAT** button (**CAT control**) in order to activate the remote control (CAT) mode. The CAT mode takes control over the radio after lighting the "REMOTE" light on the radio faceplate. When communications is working properly, the current state of the radio is reflected in TRX-manager, with the exception of the Split command which is not supported (if the current Frequency and Mode do not appear at startup, please turn a little the tuning dial). With most JST/JRC, there is no manual control from the radio controls while in this mode, not even the tuning dial !

If **CAT** is **OFF**, you can not control your JRC/JST from the Monitoring window. However, tuning a spot (using DXor Web-Cluster) tuning a SW Station is possible : TRX-Manager sets ON/OFF CAT during the time the transfer occurs and the corresponding changes are displayed by the program. However any change done from the rig is not reflected by the program until you press CAT ON again.

CAT ON is absolutely required for Scanning otherwise erratic behaviors may occur.

Memory channels (CAT ON only)

If **CAT** is **ON** , you can control the memories (Write only). With TRX-manager it is possible to store data into memories 1 to 99 (only). With the **JST-145/245**, the program memorizes the split frequencies (the repeater shifts can be entered into the memories as split frequencies).

TRX-Manager can NOT read the memory channels content.

Filters

The JST receivers and transceivers support 3 filter selections per mode. The program allows you to choose any filter bandwidth, however, the display may differ from the actual selection. See also Mode and filters.

Other brands

CODAN NGT

Select **CODAN** in Setup. By convention TRX-Manager adresses the CODAN NGT's Channels by their name (or label) from "01" to "99". Consequently, you have to rename all names by using only **01 02 03... 99**.

RACAL 6790

Select **RACAL** in Setup and fill in the **Address** field.

After you restart TRX-Manager, press the **CAT**button (**CAT control**) in order to activate remote control. This mode takes over control of the radio (there is NO manual control from the radio controls while in this mode, not even the tuning dial !). **CAT ON is absolutely required for scanning or controlling the receiver from the Monitoring**; however, tuning a spot (using DXor Web-Cluster) tuning a SW Station does not require activating **CAT mode**. Also displaying the current frequency/mode of the receiver does not require CAT ON.

By default TRX-Manager uses **CW mode with BFO**. Prior to use the CW mode, you have to set up Offset at least ONCE by setting up **Pitch** from the **Edit/Pitch** submenu or from the **Preferences/Transceiver** dialog. Later on TRX-Manager retains the correct Pitch. Offset is positive by default; to set up a negative Offset please use the **CW REVerse** mode.

To use CW with a central frequency, you have to define a nul Offset (**Pitch = 0**) from the **Preferences/Transceiver** dialog.

ISB mode is not supported by TRX-Manager as a standard mode. However, by convention, TRX-Manager displays **ISB** mode as **FSK**. Consequently, to set up ISB mode, select FSK from TRX-Manager...

Bandwidth is selectable for CW AM FM. 3 selections are available : **WID** (Wide) **MED** (Medium) **NAR** (Narrow). TRX-Manager polls the receiver for installed filters and selects the most approriate for each mode.

OMNI-RIG

OMNI-RIG is a COM component for transceiver/receiver CAT control written by Alex VE3NEA. It supports many rigs (some not currently supported by TRX-Manager) and multiple programs at the same time. TRX-Manager does not install OMNI-RIG on your computer. You must downloadand install/update OMNI-RIG before you configure TRX-Manager for OMNI-RIG (OmniRig's Setup may be included in the recent CDs). For more information about OmniRig and its installation, please see the Omni-Rig's web site.

From the TRX-Manager's **Setup** dialog, select **OMNI-RIG1** or **OMNI-RIG2** depending on your Setup for Omni-Rig. If necessary click **Configure** to configure Omni-Rig. Restarting TRX-Manager is mandatory in order to set up the TRX-Manager's interface.

CW and **DIG** modes: through OmniRig, **CW_U** and **DIG_U** are selected by default for CW and DATA modes. If CW_U gives CW-R on your transceiver, check **CW Reverse** in the TRX-Manager's Preferences/Transceiver tab.

> **Warning**
>
> OmniRIG and CWSkimmer save their settings in an INI file located in the program files folder ; depending on the configuration of UAC on your computer, this file may be virtualized by Windows. Make sure you launch TRX-Manager and any other program which communicates with OmniRig (CWSkimmer...) with the same administrator rights.
>
> If CAT control by Omni-Rig does not start correctly, please try to launch TRX-manager with the *Run This Program As An Administrator* option checked.

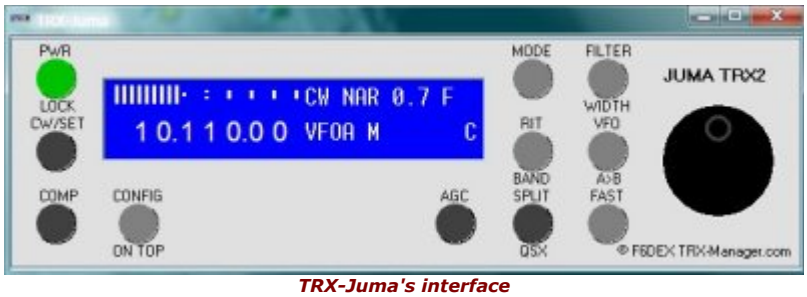
JUMA TRX2

TRX-Manager supports the JUMA TRX2 transceiver loaded with the **firmware modified by Adrian 5B4AIY : Version 1.07wb10 or later**. You have to configure your Juma with **RS232: JUMA TRX2** and (recommended) **Baud Rate:115200**. TRX-Manager uses the extended auto-information mode of this firmware and simultaneous control of the PA100D is still possible using an Y cable.

TRX-Pan + TRX-Manager works fine with a JUMA TRX2 using the I/Q output of the rig. However, since TRX2 uses a phasing and I/Q are reversed between LSB and USB, you have to set up TRX-Pan with: **Flip I/Q** (not checked), **CW:Flip** (checked), **USB:Flip** (checked). You also have to set up an **Offset** = Pitch value in CW (in kHz).

With the distribution of TRX-Manager, a stand alone (freeware) application is included: **TRX-Juma**. TRX-Juma provides control of the main functions of this transceiver and its interface mimics the TRX2's front panel. You can not run TRX-

Manager and launch TRX-Juma.exe simultanously, however, the TRX-Juma's interface is also available from TRX-Manager using the External/TRX-Juma submenu.



TRX-Juma's interface

CAT Programming

The **CAT Commands** window (**Tools/CAT Commands** submenu) may help you testing and understanding the communication protocol between a PC and a transceiver, its limitations and features. You may send data and read the reply from this window. If necessary, this window may also help you to debug any communication problem by placing a strobe on the serial line to see if the transceiver is communicating.

Related Topic

- Macro commands

Old Yaesu transceivers (FT-1000, FT-990... FT-897)

All commands sent from the computer to the transceiver consist of five-byte blocks: Byte 1 to byte 4 then OpCode . Some commands cause the transceiver to send status data.

Example

To set Split ON (FT-990/1000) you have to send the following command (hex) 00 00 00 01 01. From the CAT Command Windows, you have to declare the bytes in the same order that they need to be sent : Byte 1 2 3 4 OpCode then press the Send button. Note that for some models, the Yaesu manual give these commands in the reverse order.

This "so called" **Yaesu CAT System** was complicated and standardization inexistent; the parameters, number and values of data returned depend on the model you are using.

On the other hand it was efficient because the number of data was reduced to the minimum. Yaesu now uses a protocol very similar to the Kenwood protocol.

Kenwood protocol

Data are exchanged as String which is of great interest for the writing of programs. A command or a reply generally consists of two alphabetical characters (String) followed by numerical values and terminated by a semicolumn (i.e **BN01;**) Moreover, a small communications protocol allows controling data flows and errors... Recent models TS-2000 TS-480 FT-2000 K2, K3 have an extended **auto information** function (AI1 or AI2 command) which limits or avoids polling by automatically notifying the most important status changes (any status change for Kenwoods!).

Example

- *To set the VFO A to 7.00 MHz you have to send FA00007000000*
- *To set the CW Pitch to 500 Hz, send PT05*
- *To read the CW pitch, send PT*

The number of commands now offered by the recent Kenwood transceivers is impressive. These commands make it possible to control all their functions. TRX-Manager is far from using them all. Kenwood has control software (**RCP**) available for these transceivers.

Note

A Kenwood (like) protocol has been adopted by Elecraft and Yaesu (from FTDX9000...).

However set of commands and parameters may be different from one rig to another and timing (delay between commands) varies from a very fast 20ms (Elecraft), 50ms (Kenwood) to 150-200ms (Yaesu). Anyway, a basic program written for a Kenwood model may function on another Kenwood or Elecraft model and sometime with a Yeasu model; at least if it does not work, it can be easily updated by the developper.

ICOM CI-V protocol

The ICOM CI-V protocol is fundamentally different from the two preceding systems. In fact, it is a true communication protocol which allows networking four ICOM transceivers, each transceiver transmits by interrupt its frequency and mode changes to the others... ICOM protocol is fast, efficient and very reliable. Unfortunately, unlike Kenwood and except for Mode and (main) Frequency changes, ICOM does not implement an auto-information function. Polling each parameter is required (but in practice not recommended) to retrieve the current values; in addition many of the parameter are still NOT accessible by polling: in 2010, it is still not possible to get the current value of VFO B while your listen to VFO A even with an IC-7800!

The available commands (PC to ICOM) are generally compatible between the various models.

Exchanging data requires specifying the transceiver's address in hexadecimal code (see your manual). Each command is made up from a variable number of bytes comprising a heading (FEFE), the PC and transceiver's addresses, a command code, a data area and the FD suffix. The answer provided by the transceiver makes it possible to control if the command were accepted or not. You can try yourself to exchange data with your ICOM from the **CAT Commands window** (Tools).

Example

To set the transceiver on 145.123450 MHz it is necessary to send : FEFEXXYY055034124501FD where XX is the transceiver's address and YY the PC's address.

JST Transceivers and receivers

The JST protocol is based on string commands. It is efficient but during a communication, **REMOTE** is displayed and all buttons and dials are electrically locked.

The different JST transceivers use common commands except for the frequency. Each command require a **control item**, a **control information** and a **carriage return**.

Example

Setting 100 KHz (NRD-545) requires the following command : F0000100000+CR

Main Transceiver

Monitoring overview

The **Monitoring** is the main module of TRX-Manager. The monitoring engages a constant communication between the Main Transceiver and the computer and provides real time functions. In practice, **the Monitoring window should be always open** even if minimized.

The Monitoring window looks different according to the transceiver you are using.
RX Frequency (Left) and TX Frequency (Right)
VFO A (Main) and B (Sub) are displayed below the RX Frequency

The **Monitoring** (or Monitoring screen) is activated from the tools bar by clicking corresponding button (**F6**). This screen complements the display of your transceiver. Layout varies from one rig to another depending on available CAT commands.

> **Tip**
>
> A a real-time module, the Monitoring consumes some resources; while you are using your computer for something else you may reduce this amount by minimizing TRX-Manager. Please read the Getting started

Configuration and appearance

The Monitoring's **Configuration** button (or the **Transceiver/Colors** submenu) opens the Monitoring's configuration dialog box which allows you choosing different options for the current main transceiver:

- Three configurations for the S-Meter (Bargraph, Analog, Scope),
- Specific colors
- **Macro** option (if available) provides display of eight user-defined function buttons (while the **More Macros!** option enables up to 30 macros).

- Frequency resolution: **HF 1Hz** resolution is not supported by all transceivers (if you note a wrong behavior, please unselect this option).

Layout (colors) window

> ***Note***
>
> *At startup, TRX-Manager applies Fore/Background colors defined from the Preferences/Software dialog.*

Displayed frequencies

Whatever the transceiver you are using, the program always displays (from top to bottom), the RX Frequency (+ RX Mode), the TX Frequency (+ Offset and TX Mode), the VFOA and VFO B frequencies, the current channel's frequency.

Displayed frequencies

In the case of some transceivers, especially ICOMs, the selected VFO is unknown at startup and VFO A and VFO B frequencies may be reversed.

In addition, if you click the **SUB** icon of the Monitoring available with some transceivers, you can replace the channel's frequency display by the VFO B frequency (and only by the VFO B frequency). Each digit of this display is clickable. This function is particularly useful in Split. The offset (TX-RX) is displayed just above (here +3.14, TX in CW).

SUB display

Tuning methods

The Monitoring module implements various tuning/scanning methods:

- Frequency editing (direct entry and **MHz** frame)
- Graphic tuning and **mouse wheel** control (**Tuning** frame)
- Tuning knob and Programmable scanning (**Dial** frame)
- Tuning by clicking digits

- Using the mouse wheel
- Keyboard control (+ support for **USB tuning knob**)
- Joystick control
- Drag and drop of frequencies are possible from/to the Monitoring window

Particular functions

Band selection

For each band, the software retains the last visited frequency (+ mode, filter, tuner) like a **band stack register** but unrelated with those of your transceiver. The **Mhz** button displays a numeric keypad from which you can enter a Frequency using the Mouse.

QMB

Buttons of QMB frame are related to Quick Memories.

Clarifier (RIT)

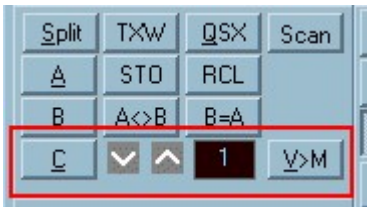
If available, Clarifier/RIT shift is displayed (+ R for RX shift and T for TX Shift). From the Configuration dialog , you may chose between this function (Default) and function buttons (Macro).

Tuning steps (ICOM)

If available, tuning steps of the transceiver may be selected from this frame. Please note the corresponding selections do not have any effect on TRX-Manager itself. From the **Configuration/Preferences** dialog , you may chose between this function (Default) and function buttons (Macro).

Channels

The current memory channel in use is displayed and may be changed in one channel steps by clicking the little arrows near the channel number : or by typing a channel number and pressing **C**.



See also : Memory channels

Lock dial function

The LOCK button allows you to lock the main tuning knob to prevent accidental frequency changes. But TRX-Manager is doing more by locking a particular VFO !. You may toggle from the locked VFO A to the unlocked VFO B. That is particularly useful when working a DX in split.

Diversity

The **F** button (FT-1000/920 IC-7800 and Kenwoods) allows **VFO B to Follows VFO A**. Once you engage this function, Offset between A and B remains constant.

OP function

By default, at startup, the Main Transceiver is the Operating transceiver. In conjunction with a Sub-Transceiver panel, the **OP** button selects the **Operating** transceiver at any time and very quickly during a session.

Interfacing

The **copy** toolbar's button lets you copy the current data's (**callsign frequency mode date**) into the clipboard.

Update function

In some case (after a power on/off or an error), the **Update** function may be used to resume the communications and synchronize the display with the transceiver. If something wrong appears on the display this function may be used to fix it.

The corresponding **Update** button (if available) is located at the bottom right of the display. Appearance of the button may differ from one brand to another (a Kenwood , ICOM or Elecraft icon... may be used).

update function

SUB Frequency display

The SUB Icon allows displaying and tuning the **SUB** or **VFO B** frequency (see Split Operation).

Other advanced functions

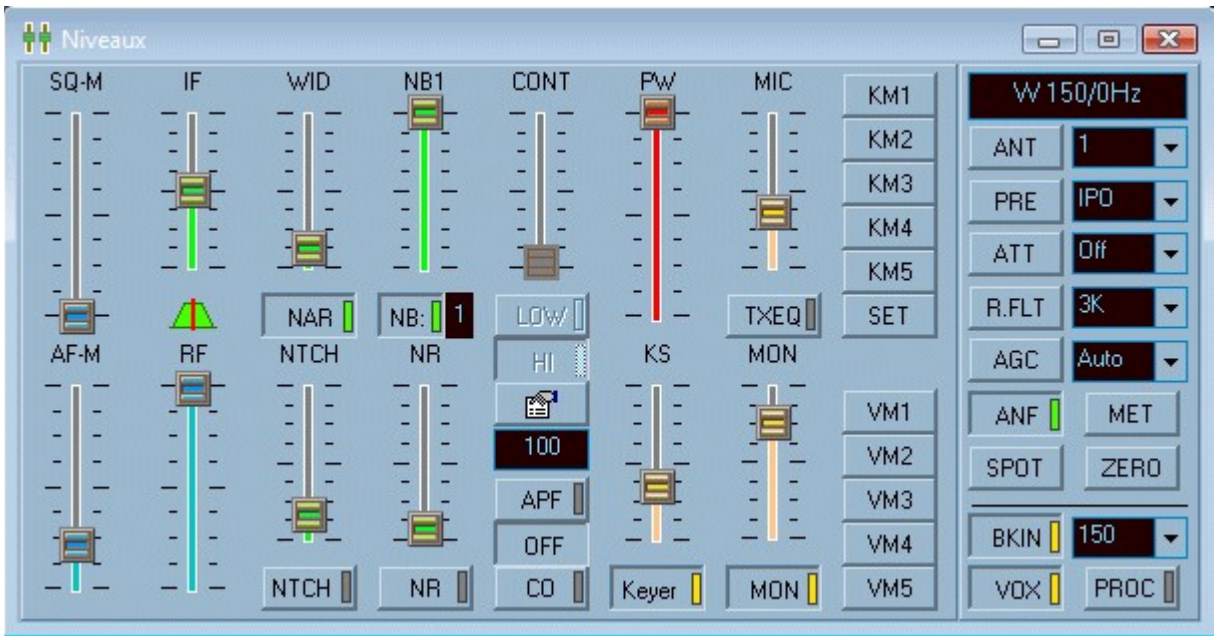
- Split Operation
- S-Meter and Multi-Meter
- Info for Current Spot
- Modes and Filters switching
- Quick memories
- Undo Redo
- Repeater settings
- Keyboard shortcuts

The Levels window

The Monitoring offers the most used controls of a transceiver with pre-set choices for the bandwidth. But many other controls are generally supported by the most recent transceivers.

The **Levels** window completes the Monitoring with many additional controls like **Squelch**, **PBT**, **IF Shift**, **DSP, AGC**....

The Levels window opens with the **Transceiver/Levels** submenu or the button of the Monitoring. The activated controls, the shape and appearance of the window depend on the type of transceiver:



Levels window (FTDX-1200)

Lastly if you need some other controls that are not provided by the Levels window, you can use Macro commands either from the Monitoring window itself or using the TRX-Command utility.

DX Squelch

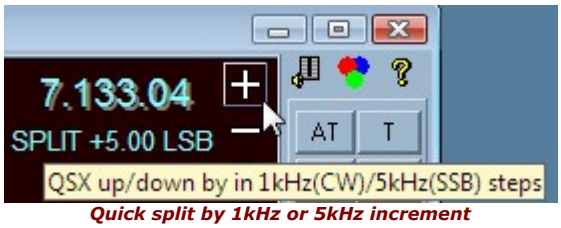
If **AF gain** control is supported by your transceiver and according to the status of the Main toolbar's **Tools/DX Squelch** button , AF is muted after a given period of inactivity. The specified delay can be defined under the Band Plan tab of the Preferences.

AF Gain is set to its previous value as soon as you set a dx-spot or you change the frequency.

Split operation

Various functions make Split operation much easier...

Quick Up/Dn function
The Monitoring's **Quick Up/Dn** function allows you switching Split by 1kHz(CW) or 5kHz(SSB) increments very quickly:



Quick split by 1kHz or 5kHz increment

TXW/XFC/TFS function

The **XFC (TXW TF-SET)** button (Monitoring) makes it possible to quickly set the **TX frequency** with the tuning dial of the transceiver or the mouse:

1. select **SPLIT** mode,
2. equalize the two VFOs (**A=B**),
3. click **XFC** and **hold** the left button,
4. set the TX frequency by rotating the tuning dial of the transceiver (see below how to tune VFO B from TRX-Manager using your mouse)
5. release the left button.

SUB/VFOB Frequency tuning

With some rigs, it is possible to read/tune the VFO B in real-time while you are listening to VFO A : by clicking the SUB Icon (SUB Monitoring) the SUB Frequency becomes visible and is "clickable" (digit by digit tuning).

SUB icon, Tuning the SUB VFO

The **XFC (TXW TF-SET)** function and SUB/VFOB frequency tuning can be used together. First and if necessary, press F6 to give the focus to the Monitoring. Press and hold **ESC** (Escape) on your keyboard to listen to the VFOB frequency. While you hold **ESC** you can adjust the digits of the VFO B display using the mouse buttons or the mouse wheel.

Notes

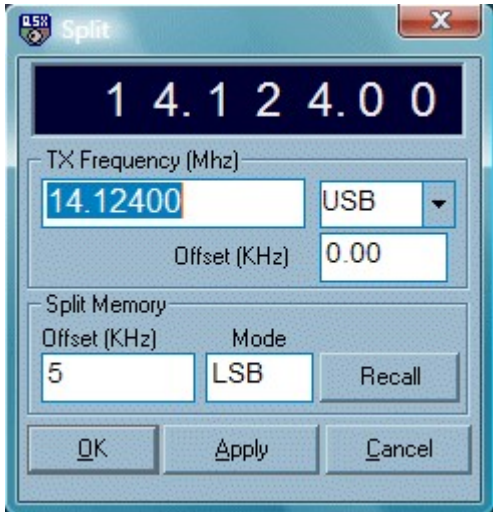
1. ***This function is only usable if RX=VFOA and TX=VFOB ; it is NOT available if the VFO B is the main VFO (or it may give unpredictable results).*** *You may have to initialize the VFOB display before using these functions.*
2. *While TFS/XFC/TXW is activated, the Monitoring loop stops and VFO A can NOT be tuned (improper changes may happen if you try it).*
3. ***ICOM Transceivers*** *: Only the most recent firmware allows this function (see availability of cmd 25 26 in the CI-V manual). However, for the other ICOMs, a similar function has been implemented : the VFOB is selected as soon as you move the mouse over any digit of the SUB/VFOB display and tuning is possible this way ; the VFO A is selected again as soon as the cursor leaves the VFOB zone. In that case VFOB tuning is not usable in conjunction with the ESC key.*
4. *This function is not supported by all transceivers. If your transceiver does not support this function the SUB icon opens the Quick Split (QSX) window.*

QSX function

The QSX function (**Edit/Split** or **F3** or **QSX button**) opens the **Quick Split** window. You may set up either :

- a transmit frequency (MHz) and split Mode (with same operating mode as receive frequency)
- any offset (QSX) in kHz.

The Split screen also provides a memory for split settings: Please fill in the text boxes for **Offset** and **Mode** under the **Split Memory** frame. The **Recall** button recalls these settings quickly. In addition, once the Split Memory is set-up, and if the Monitoring Window has the focus, the **X** key (keyboard shortcut) automatically recalls the Split Memory.



An instant digit by digit tuning of the sub VFO frequency is also supported (dual RX transceivers).

Tip

A typical use for this function is to be able to copy RTTY in FSK mode with a sound-card program and transmit on SSB: the split is 'usually' about 2.13 khz. This makes it possible to change frequencies reasonably quickly.

Auto QSX (DX Spots)
While clicking a DX Clusteror Web Cluster spot, TRX-Manager automatically sets the TX frequency if any split condition is specified in the comment field. This feature may be disabled from the **Preference** submenu under **Terminal (Auto QSX).**

Undo Redo

The **Undo** and **Redo** functions (main Toolbars) are running in conjunction with the Monitoring window. They recall the last visited frequencies.

When a frequency change is done, the software keeps in memory each frequency visited (up to 10 frequencies):

- The **Undo** button goes back to the last frequency visited,
- The **Redo** button cancels effect of **Undo**.

S-Meter and Multi-Meter

The S-Meter of the Monotoring features two modes of operation/three appearances to be selected from the **Transceiver/Layout** dialog. All colors of the s-meter are customizable from this dialog.

You may also toggle from one type to another by clicking the s-meter.

The S-Meter values are not displayed (or irrelevant) during a frequency change.

Related Topic

- **TRX-Meter**: High precision S-Meter

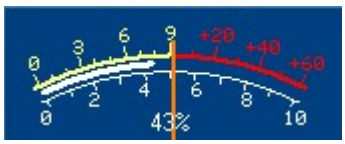
Calibration

You may **calibrate** the software's s-meter in accordance with the s-meter of your transceiver: this calibration is done from the **Preference/transceiver** tab dialog box (S-Meter frame) by moving the dedicated slider.

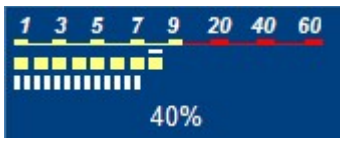
S-Meter : Bargraph or Analog mode

The S meter value is indicated in microvolts (S9 = 50 µV below 30 MHz, 5 µV above 30 MHz).

The **Analog** mode is displayed by default at startup. The linear scale (0-10) displays the auxiliary meter values (see below).

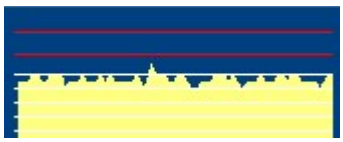


The **Bargraph** mode features a peak hold function. The maximum s-meter value is displayed and will be reset when beginning a new frequency change or after 2s. An auxiliary bargraph displays the auxiliary meter values.



S-Meter : Scope mode

This mode can display a graphical representation of the signal vs. time. The s-meter displays the signal values for the last 30 seconds.



Auxiliary Meter (E-Meter)

If feedback of meter data is supported by your transceiver, please choose the value to be read (**SWR**, **Po**, **ALC** ...) in the combo box: an additional indicator (analog) or bargraph displays measurement of SWR/COMP/ALC... during transmission.

In addition, different other choices are possible:

- **OLE**: to read data sent by a third party program such as E-Meter by N8LP
- ACOM: data sent by TRX-Acom
- **LP-100 ALPHA W2**: data sent by a digital wattmeter **LP-100 & LP-100A** or **ALPHAPOWER (4500)** or **Elecraft W2** to configure under **Setup/TRX1. Power** and **SWR** are displayed. A white bargraph shows power by scale automatically adjusted to 25/250/2500W (LP100). See also Linear-Reminder.

Repeater settings

For transceivers which support the corresponding commands by computer, TRX-Manager provides control of various parameters needed for repeater operation.

These parameters can be set either from the **Frequency** window (**F2**) or the Channel window.

Available parameters

The parameters that are supported by the program are the following:

- Shift (**Shift**) and signs ()
- Encoding/Decoding **CTCSS** tones
- Encoding **DCS** codes

Notes

- *The available parameters vary a lot from one transceiver to an other and it is not possible to provide a comprehensive list of the supported functions for each rig*
- *In many cases and/or if the Repeater Offset is not supported "as is", the program offsets the TX frequency using the Split mode*
- *If **DCS** encoding is supported by your transceiver, please check DCS to make visible the DCS Combo box and select the value of the DCS code.*

Default settings by band

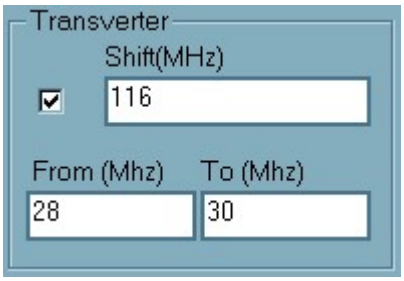
The **Preferences** dialog box, under **Transceiver** tab makes it possible to set the default parameters for each band. Take care to ensure that the parameters are valid for your transceiver. These parameters are saved for each transceiver separately (TRX1-4).

If **Auto RPT** is checked, the default parameters (Shift) are sent to the transceiver at each band change (only in FM).

Transverter

TRX-Manager provides settings for a **Transverter** from the **Preferences/Band Plan** tab.

By checking this option in the **Transverter** frame (**Band Plan** tab), all frequencies for the specified range will be shifted depending on band switch. I.E You may use a transverter from 28 to 30 MHz for the 144MHz band (with a 116MHz **Shift**) as follow :



To enable the frequency conversion, you must select (using the program) a frequency within the range of the transverter.

To disable the frequency conversion, please just select a frequency outside the range of transverter. This way, you may click dx-pots and have the right frequency conversion.

This option is not related to the Satellite's **Transverter** option. Using both functions at the same time is not recommended and may give unpredictable results.

Tuning methods

Frequency editing

Direct input

The **EDIT/VFO** menu (**F2**) opens the VFO window and allows for edition of the current frequency (**VFO**). Please note TRX-Manager has been written to reduce typing. To set 14.200, you only need to press the following keys :

[F2] [1] [4] [.] [2] [0] [0] [Enter]

Setting up current filter, CTCSS Tone, Repeater offset... is also possible from the VFO window.

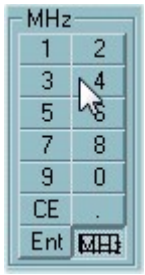
See also : Repeaters settings

Mouse input

The **MHz** frame of Monitoring allows a direct input of frequencies using the mouse. Please :

- check **MHz** button
- click each digit (**dot** between MHz and KHz)
- click **Ent** to enter/set the frequency

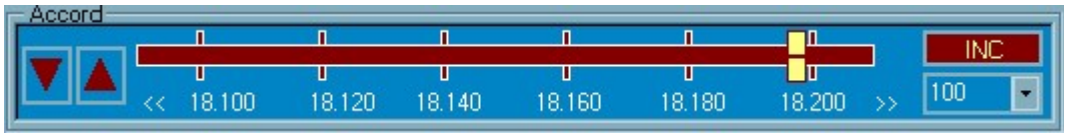
CE allows you going back (and cancel editing)



Mouse input keyboard

Graphic tuning

In the lower part of the Monitor Window is an advanced - mouse sensitive (when highlighted) - tuning control. The combo box (on the right) lets you to define the **Range (in KHz)** of the control (shortcuts **PgUp/PgDn**).



Tuning by moving the cursor

The cursor can be grabbed with the mouse ; it is divided into two parts : the lower part tunes over the full range of the tuning control. The upper part fine tunes around the current frequency.

Large or Fine Tuning

Tuning by using the Mouse Wheel

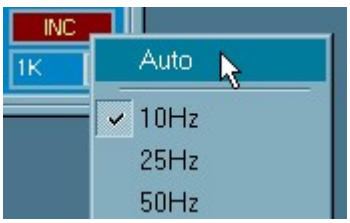
When the Monitoring is highlighted, the mouse wheel can tune the frequency. The Tuning Step is variable according to the state of the **INC** function:

- **INC** NOT activated : the step is 1/1000 of the total range (Range=100K -> Step = 100Hz)
- **INC highlighted** : the program uses the Step you define under the menu which opens when you right click the INC button (activated) :

  Auto Checked *: the program implements (if supported) the incremental tuning of the transceiver (= Microphone's Up/Down button) which gives progressive tuning. Whatever the range or the mode, this selection provides fine tuning. If your transceiver does not support incremental tuning, the program uses a standard step (10Hz or 100Hz).*

  Auto Not checked *: the program implements the step you select under this menu. This selection is saved mode by mode (i.e : Auto for CW, 10Hz for USB, 12.5KHz for FM...).*

  Round Off *: if checked, the program rounds off the frequencies (according to Step).*



Step menu

When the digits of the RX frequency display are highlighted, the mouse wheel tunes the corresponding digits.

Variable Scanning

By holding the left mouse's button and moving the mouse pointer on the right or the left of the cursor you engage a scanning feature for which the speed (or tuning step) is variable and is a function of the distance between the mouse pointer and the cursor. The scanning stops when the mouse button is released.

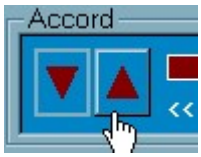
Progressive scanning
Hold the mouse button

By moving the mouse pointer during scanning from one side to another of the cursor, you can tune your transceiver in a way that is almost as convenient as with the tuning knob.

Tuning buttons

For most transceivers, the program implements the incremental tuning of the transceiver (if supported). The tuning direction depends on the selected arrows OR the depressed mouse button : the right mouse button reverses the tuning direction.

For the other transceivers (if incremental tuning is not supported), you can use the arrows for a quick increment (standard step depending on mode) or, you can display and then select a specific frequency by holding the mouse button.



Tuning knob and Scanning

Tuning Knob

There are two methods to control the VFO button according to the position of the **Dial** switch. **Fast** button makes it possible to speed up the QSY. Note that behavior is very different according to the type of transceiver.

Tuning knob

Dial switch depressed

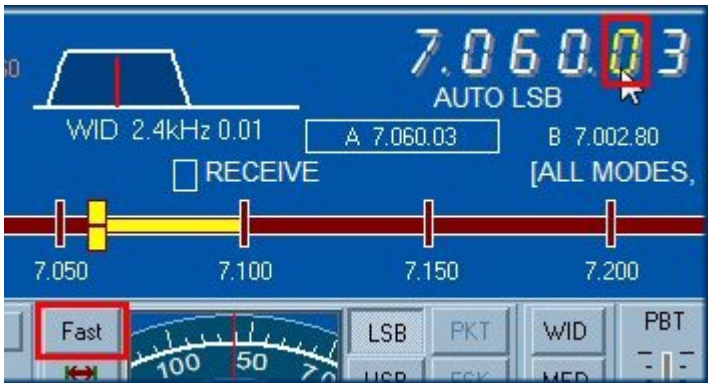
The VFO can be grabbed with the mouse : maintain the left button while making turn the cursor around the VFO knob.

Dial switch pressed

The VFO knob is controlled with the mouse buttons : a right click increases the frequency and a left click decreases the frequency. Please note the speed is variable but effect is depending on CAT system of the transceiver.

Tuning/scanning by clicking a DIGIT

In most windows which display a frequency, you can have a precise tuning or engage a scanning by left/right clicking a digit. However, the behavior of the program depends on the state of the **FAST Digit tuning** option (**Scanning dialog** , see below) and/or the state of the **FAST** button (If exists: Monitoring, Sub rig panel).



Left/Right clicking a digit allows precise tuning OR engages a scanning depending on the state of the FAST button

By default, the **FAST digit tuning** option is NOT checked. In that case :

- **FAST** Button NOT checked : a short click allows a precise tuning digit by digit while a long click (>1s) engages a continuous scanning
- **FAST** button IS checked : the short click function is disabled. The continuous tuning is engaged as soon as you click a digit.

In the case of the **FAST Digit tuning** option (Scanning dialog) IS checked, the short click is always disabled. This option may be useful for the windows which do not have a FAST button... or if you don't like/need the precise tuning function.

Programmable scanning

The scanning buttons <<< >>> engage a continuous scanning around the current frequency.

How to STOP scanning?

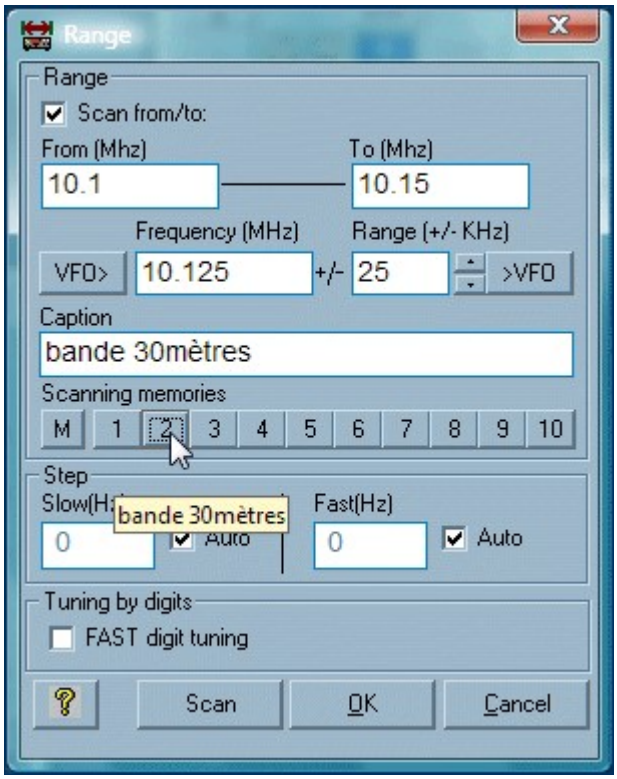
This scanning is continuous and does not stop on busy frequencies or channels. Once Scanning is engaged, you have to click the Tuning knob to stop scanning.

How to stop on busy frequencies?

The Monitoring's scanning does not stop on busy frequencies. Please see the Band Scope topic for a scanning which stops on busy frequencies.

Scanning dialog

Steps and **Scanning ranges** and some other options are configurable from the **Scanning dialog** (this button).



Scanning dialog

From the **Scanning dialog**, you may define:

- the **Lower** and **Upper** scanning limits (MHz)
- the **Center** frequency (MHz) and the scanning **Range** (KHz)...
- a comment for the scanning range (caption)
- by checking **Scan from/to**: enable the scanning range (or disable it for a continuous scanning)
- scanning memories by clicking **M** then the memory number (**1-10**)
- recall a particular scanning frequency & range by clicking the corresponding memory number
- a particular **step** or setting up the program to calculate it according to the mode and the frequency in use by clicking **Auto**.
- the behavior of the **Tuning by digits** function (see above)

By clicking **Scan**, scanning starts immediately from the **Center** frequency. If you click **OK**, Scanning range will be effective only if the current frequency is within the scanning range. Clicking the Tuning knob stops scanning.

Notes

If you own a FT-990/890/840/900/1000D/980/767GX the best choice for slow scanning is AUTO. That option allows you to have the benefit of the Internal scanning function of the transceiver. The scanning step is the one defined by the transceiver. With these Yaesu transceivers, the Auto mode (Internal scanning) prevents the receiver from being chopped off during scanning,

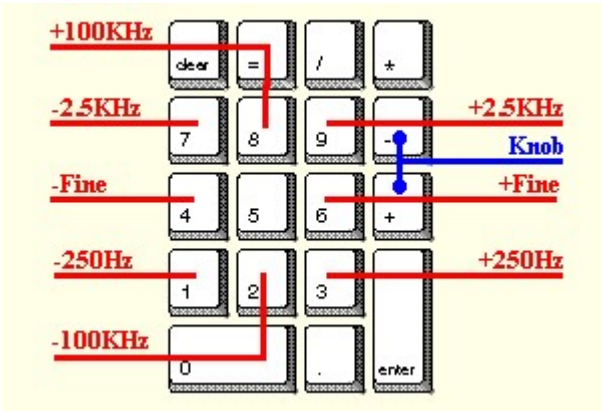
If you own a FT-1000MP, you can try to configure the program for FT-1000MP MKV in order to have the benefit of the internal scanning function (according to the versions of your ROM, this command may be supported or give unexpected behaviors),

In the other cases, if Auto is checked, the program calculates a variable step according to the mode, etc... If AUTO is not checked, step stays constant and the one defined from the Scanning dialog.

Keyboard tuning

The **F2** or **F3** function keys lets you direct input Frequencies for RX or TX.

If Monitoring or DXBar are highlighted, a manual scanning is possible using the **numeric keypad** (see also keyboard shortcuts).



Numeric keypad (Monitoring highlighted)

Using an USB Knob

The Monitoring's shortcuts (or accelerators) are particularly useful if used in conjunction with an **USB Knob**:

- the **+** and **-** keys (numeric keyboard) which behave exactly as the mouse wheel (see above)
- **PgUp** : Range Up
- **PgDn** : Range Down
- the **I** key which toggles **INC** tuning mode **ON/OFF**
- the **F6** key which will highlight the Monitoring window at any time

Tip

To improve the behavior of your USB Knob you may adjust the rate of key repetition from the Control Panel (Keyboard Icon).

Joystick Control

Frequency tuning and some other functions can be carried out with a PC games joystick or a home made one. Joystick control is supported by the Monitoring module which must be opened. TRX-Manager will use the default joystick configuration on a sound card or USB port.

Activation and functions

Setting the Joystick is done from the **Joystick** tab of the **Preferences/Transceiver**. Once Joystick control has been **enabled**, each axis of the Joystick must be enabled and calibrated separately. If one axis is not detected, TRX-Manager automatically disables it in order to avoid an inopportune frequency drift.

Please note, if TRX-Manager is configured in **SERVER** mode (see Remote control), the Joystick does not have any effect.

X-Y Axis (ailerons and elevator)

These axes tune the frequencies by the step generated by the program. The step is variable according to the position of the Joystick. X-Axis variably scans while Y-Axis increases or to decreases the effect of the variable scanning. In order to understand how the tuning step is calculated, you may observe the step displayed by the program according to the position of the X-Y Axis.

R-Axis (rudders)

This axis controls the frequencies in two ways: by default, R-Axis has the same effect than X-Axis but the step may be different. If **Internal Tuning** is checked, the step is fixed and is determined by the scanning function of the transceiver. This give more precise tuning but this option may not run with all transceivers. It is especially recommended in remote control mode. If this function is not available, TRX-Manager displays **N/A** in the monitoring window.

Z-Axis (throttle)

This axis controls the AF gain (if available).

Calibrating

The joystick must be calibrated. For each axis, apply the joystick fully in each direction and press the corresponding **Cal.** button. Now, center the action of the Joystick while pressing the **Center** button.

The **backlash** of the Joystick (or neutral zone) may be adjusted for each axis separately. Please increase the value of the backlash (the value has no dimension) if you note a frequent frequency drift.

Lastly, scanning steps are fully configurable for each axis.

Buttons

The buttons have the following functions:

- **button 1** (trigger): this button stops the scanning immediately
- **buttons 2 & 6**: centers the action of the joystick without opening the Preferences (both buttons have the same effect : button 6 is preferable since it is located on the base of the Joystick but button 2 may be more easily wired).
- **button 3**: scanning speed is divided by 10
- **button 4**: scanning speed is multiplied by 10

Problems and resolution

1) You note a frequency shift without any action on the Joystick:

- the joystick is not properly centered : press the button 6 (or the Center button of the Preferences/Joystick)
- backlash is too low : increase the backlash

2) You don't know the buttons number:

- open the Preferences/Joystick and press any button of the Joystick: its action will be displayed in the **Buttons** frame.

3) Your Joystick is a force feedback device

In that case you must use a driver or a program (not included) which forces the joystick to be centered. It is possible that

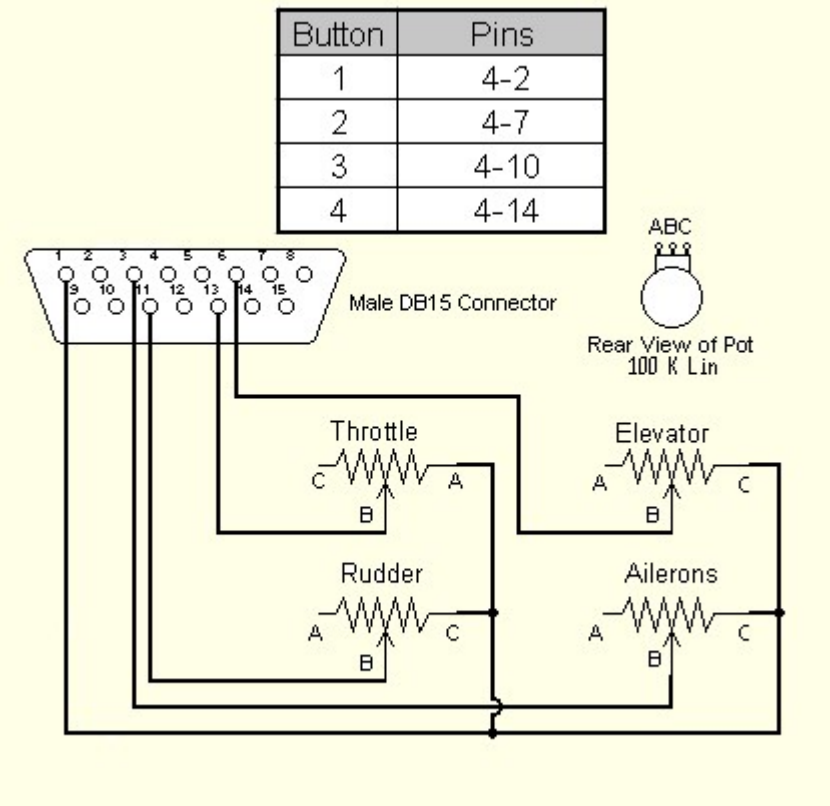
only R-Axis may be usable...

4) You don't understand how to set the joystick

Please start from beginning by clicking the **Default** button of the **Preferences/Joystick** tab. Then activate the XY-Axis and press the button 6 of your joystick: your joystick is now ready to use. Calibrating is especially required if you don't have any driver for your joystick (for home made devices).

How to build a Joystick

Joysticks are generally cumbersome. Wiring a joystick for a sound card is not difficult (*): the wiring diagram is provided for your enjoyment but without any support of any kind.



Wiring a Joystick

Note

Sound card inputs are rare on recent computers. An USB to game port connectors is a possible and inexpensive solution.

Memory channels

Memory channels overview

Generally you can toggle the channel memory mode quickly from the Monitoring by selecting a valid channel (using the small arrows) and clicking the **[C]** button. Depending on the transceiver you are using, selecting an empty channel may load a blank channel or may have no effect (the VFO mode stays selected). The **[V/M]** stores the current VFO into the selected channel.

Channel 1 is selected

However, TRX-Manager makes the internal memory channels of the transceiver user friendly by offering direct access to (some of) their properties.

Moreover, the program allocates a label to each memory channel , different **CTCSS** encoding and **repeater shift** (only valid for FM and some models). These features may help you to work through FM repeaters. The label is displayed above the RX Frequency (*Monitoring*).

For more details about the supported functions for a given transceiver, please see the (Specifications) section of the help related to your transceiver.

Functions related to the memory channels

- Direct editing of each memory channel
- Displaying all the content of the memory,
- Creating and saving the content of the memory on hard disk.
- Scanning by software

Notes

- *With some transceivers the channels are virtual and not related to the channels of the transceiver (see Specifications)*
- *With most transceivers (especially Kenwood and ICOM), repeater's **Offset** is not supported but **Shift** sets up the appropriate difference between the RX and TX frequencies (except TS-2000).*
- *With ICOM transceivers (and some others), TRX-Manager does not read the contents of the whole bank of memories. However, the frequency and mode associated with each memory channel are read with selection of the channel from the monitoring window.*

Warning

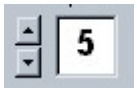
The memory channel module is one of the most complex of TRX-Manager. There is absolutely no standardization and each model has its own set of parameters which makes writting a standard interface almost impossible. Please understand that such a software is a compromise and that some very specific functions may be not supported.

Please take your time to test it before you purchase the program!

Editing the memory channels

Direct editing of memory channels is very easy from the **Edit/Memory** Window. Most of supported parameters may be edited.

You edit the parameters and click **Apply** to save.

You move to another channel by clicking up/down buttons 

or click **OK** to exit the window.

It is also possible to quickly fill the contents of the memories by drag and drop. The icon (frequency) can be dropped into the channel's display of the Monitoring window or directly into the list of the channels - in this case, with each addition of a frequency, the current channel number is incremented.

Notes

- ***Offset*** *may be converted into a* ***Shift*** *between the RX and the TX frequencies (especially on ICOM and Kenwood). See also Repeater settings.*
- *When editing a channel, auto-mode should be disabled (OFF) ; otherwise, when checking on the memory channel by switching the transceiver, the Monitoring may reset the mode to its default value (according to the band plan).*
- *This function does not apply to all Transceivers*

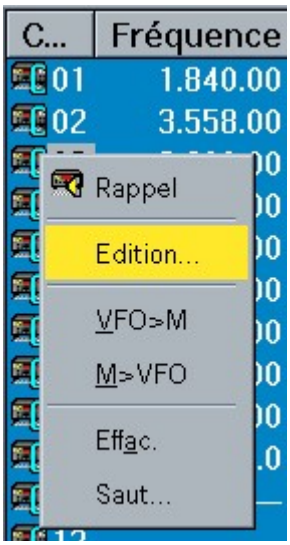
Displaying the channels

You can view all the content of your memory using the **Display/Memory Channels** submenu or the following tool bar button . You only need to click a channel number to recall the desired memory channel.

The tool bar duplicates main tool bar buttons : creating or saving or scanning the memories ; the **Clear All** button clears all memory channels in one click (if supported, Kenwood and ICOM only).

But this window also hides some powerful functions:

- **Sort** by number/frequency/mode or information is provided clicking each column header
- Channel status for **scanning** : if ***** is displayed, the corresponding channel is included
- **Pop up menu** (right click) with following submenus :




```
Pop up menu     :
Recall : Memory channel recall

Editing… : Editing the channel

VFO>M : Memorizes the VFO into any channel

M>VFO : Recalls the channel into the VFO

Skip : Changes the status for scanning
Hide : Hides/Unhides the channel (see the manual of the transceiver)
```

Scanning the channels

A scanning "by soft" is possible using the **Transceiver/Channels/Scanning** submenu. The software provides a signal level floor (S-Units) for busy channels and the scanner pauses and resumes after a preset **Pause** delay. With some rigs, you may also use the **Squelch** to control the scanning: the program resumes the scanning if the carrier drops (only if the Monitoring is running).

The duration of the **Pause** during scanning (10s by default) and the Scanning **Speed** (30 by default) are defined under the Transceiver tab of the Preferences.

This scanning is not related to the scanning of the transceiver; however, the program reads (if available) the status of each channel : if the channel is to be skipped by the transceiver, the program also skips this channel (It is easy to change the status for scanning from the Channels window by right clicking on the channel and choosing the **Skip** submenu).

From the tool bar you start the scanning in descending, ascending order and stop it.

The slider sets up the **time delay** for the pause. The **Stop** check box stops the scanning on a busy channel; then the scanning resumes when the signal level (or the squelch) drops down.

Creating memory files

The program allows you to create memories files on hard disk using the TRX-Manager's file format (**.MEM**) or the FTBasic's file format (**.CSV**). From the main tool bar, click **Transceiver\Open** to load a file of memories into your transceiver. Click **Transceiver\Save** to save the content of your transceiver memory on hard disk.

MEM files (TRX-Manager)

Please read the file section for more information about the ***.mem** file structure and do not forget to save your memory before loading a new file !

.CSV files (FTBasic)

CSV files use the format defined by FTBasic. In addition, CSV files may be opened from Excel. Please note the following conditions:

- field separator may be comma (**,**) or semi colon (**;**)
- decimal separator MUST be period (**.**)

Files format

When you save memories (from the **Transceiver** menu) the software creates a file with the name of your choice and extension **.mem** as default. It is a text file. It is compatible with any transceiver supported by TRX-Manager.

The content for each line is 13 data's separated by comas (, or ;) in this order :

. frequency in MHz (0= > Clear, -1= > Skip
. clarifier value in kHz status for tx clar

. status for rx clar

. status for +RPT

. status for -RPT

. status for Reverse

. status for SCAN (0 include 1 skip except FT-920)

. status for HIDE (2 unhide 1 hide)

. tuner (FT-920 only)

. status for mode (same format as band.dat)

. status for filter (0>2.41>2.0/2>500/3>2504>6.0)

. channel information (label)

. repeater offset (KHz)

. CTCSS frequency (Hz)

. Encoding (0=no 1=yes)

. Decoding (0=no 1=yes)

. Group (TS-2000 only)

BEACONHF.MEM and **BEACON28.MEM** are two files delivered with TRX-Manager with HF beacons.

You may create or edit the file under MS Excel and save it as CSV which matches the **mem** file format.

INFO.DAT file

This file is used to store the current “information” for your memories.

It is a text file with:

- A literal information for each channel (20 characters)
- 32/90 or 99 lines of text (no blank line)

Generally you don't need to edit this file.

Band Scope

Band scope overview

The **band scope** function gives a pleasant view of the band activity and provides graphic tuning of your transceiver.

TRX-Manager needs to scan the desired band portion to display the spectrum. This scanning may be controlled by the signal strength to **pause on busy frequencies**.

To open the band scope, you need to activate the **Tools/Band Scope** (**Ctrl-B**) submenu or the corresponding tools bar button .

> ***Note***
> *This bandscope it NOT a real time one and does not replace a panadapter!*

Buttons

Below are the functions of each button:

: (or Enter) to **start** or to restart analysis

: (or Escape) to **stop** scanning

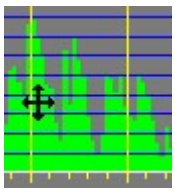
: to **re-draw** the spectrum if altered.

: to **initialize** parameters (center frequency and spectrum width) from current transceiver frequency or any HAM band

: This button toggles from **FS** analysis to **TFS** analysis (**Frequency Time Signal**).

Graphic tuning

When the scanning is ended and the spectrum displayed, you only need to click a desired portion on spectrum to tune your transceiver to the corresponding frequency.



Analysis mode

The band scope provides a classical representation of the spectrum (**FS** for **Frequency**, **Signal**) but also an analysis for a long period of time (**TFS** for **Time**, **Frequency**, **Signal** or **Waterfall**) : each value of the signal is translated into a colour (**Blue=S0 Green=S9 Red=S9+60dB**) ; it is possible to toggle at any time from FS to TFS using the TFS button .

Please note that the TFS mode takes a while to draw all the screen. This time depends on the accuracy (1 to 8).

Scanning

During the scanning, the **signal threshold** from where the scan pauses is adjustable with the vertical slider. The pause delay (or **Scanning** delay) is adjustable from the **Preferences/Transceiver** dialog box.

Scanning **Step** is set automatically in Auto mode or by the user in Manual mode. Manual mode is recommended for FM or AM channels while Auto mode is preferable for SSB and CW.

> **Tip**
> For a better precision of the display, please set the AGC switch on AUTO position or on FAST.

Zoom

To zoom a particular portion of the spectrum : hold the mouse button (more than 1s) and move the mouse until the upper limit is reached.

Band Scope and Monitoring

When used together, **Band Scope** and Monitoring are interfaced : any frequency change from Monitoring (or directly from your transceiver) influences the spectrum display ; so you don't need to scan again. **Markers** for current frequency and last frequency are displayed.

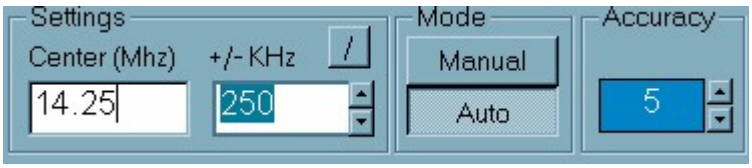
You may also use the band scope in conjunction with the Monitoring's scanning (but without pause on busy channels): please see also how to change some parameters of the scanning.

The scanning algorithm

Scanning is done by **Steps**, not continously, and Step size is defined by the **Accuracy** function and/or the filter width. If Step is greater than filter's width, stations may be missed. In order to minimize this situation, TRX-Manager adds a random value at the beginning of each scan. Thus, more stations will be detected over a repeated scan. The **TFS** mode provides a graphic display of all stations detected over a long period of time.

In **Auto** mode scan is done in CW in order to select the narrower filter(s) and a fast AGC. You may choose **Manual** scan to bypass these parameters.

Band scope parameters



Mode (Auto by default)

The software scans in **CW mode**. This is because, in this mode, generally AGC delay is switched to **FAST** by the rig. You may select manual to scan with the current mode and filter selected but with a loss of precision. Otherwise, the mode determines which mode is selected when the scan pauses: if Auto is selected the program switches to the mode defined by the band plan.

Accuracy

In Auto mode the accuracy of analysis may be defined from **1** (**low**) to **8** (**high**). This parameter has an influence on the analysis delay. In **TFS** mode and **higher precision** (**8**), it takes some hours to fill in all the screen but only a few minutes with the **lower precision** (**1**).

In Manual mode, you must set up the scanning **Step** (in KHz).

Center frequency

Any frequency allowed by your transceiver.

Sometime, you may wish to define the lower and upper end of the spectrum (to avoid a mental arithmetic): click the button to display the corresponding text boxes.

Width

Half width of spectrum in KHz by step of 50 kHz.

Sub Transceivers

Sub Transceiver Panel

Up to three **Sub-Transceivers** can be controlled at the same time simultaneously with the Main Transceiver.

The Sub-Transceiver control window opens from the **Transceiver/Sub...**submenu. Only Transceivers supported as Sub-Transceiver are displayed in this menu (see List).

Sub-Transceiver panel

It should be also noted that the corresponding serial port only opens when you load the panel and closes as soon as you unload it.

Tuning methods

The Sub-Transceiver panel uses the same tuning methods as the Monitoring:

- Tuning knob and Programmable scanning (**Dial** frame)
- Tuning by **digits** : **left/right click** of RX Frequency changes one digit while holding the mouse button scanning.

Preferences

A Sub-Transceiver uses its own Preferences (in particular for Rotators, Tuner, Power, band decoder...). However, Preferences are only accessible for the current Main Transceiver. If you need to change the preferences for a Sub-Transceiver, please define it temporarily as 'Main' from the Transceiver menu.

Layout

In addition to the **Preferences/Software** dialog from which you may select Fore/Background colors, the **Configuration** button opens the configuration dialog box.

Other functions

Band selection

For each band, the software retains the last visited frequency like a **band stack register** but unrelated with those of your transceiver.

Direct entry of Frequencies

Direct entry of frequency is provided from the Band switch (in MHz):

A **Left click** on **>RX** sets up the receive frequencies while a right click sets up the transmit frequency (**TX**).

Tuning steps (TS+ TS-)

Tuning Step is memorized for each Transceiver and each mode. A clic on **TS+** or **TS-** increases or decreases the tuning Steps respectively for **Fast** and **Slow** scannings.

OP function

By default, at startup, the Main Transceiver is the Operatingtransceiver. In conjunction with the Monitoring, the **OP** button selects the **Operating** transceiver at any time and very quickly during a session.

Function buttons

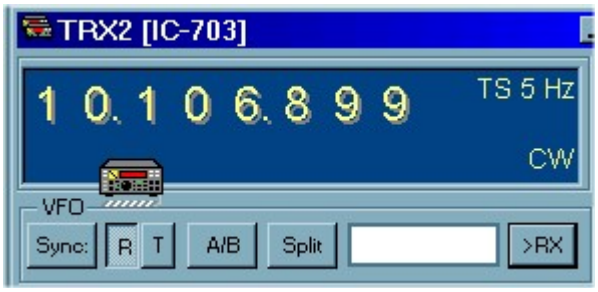
Four Function buttons are user-definable.

Sync

The **Sync** button synchronizes a Sub-Transceiver with the Main Transceiver for **RX** or **TX**.

Drag and Drop

A drag and drop from a sub-transceiver can be initialized from main display (just below the frequency):



DX Spots

From the DXClusteror the WebCluster windows, you may send spots to a **Sub-Transceiver** without opening the corresponding panel and/or even if it is not the Operating Transceiver.

Advanced features

The DX Bar window

The DX Bar window (in the **Tools/DX Bar** submenu) synthesizes the most important information and controls of TRX-Manager for the Operating Transceiver in one easy to operate panel. Unlike other windows, the DX Bar window is displayed outside the main application and remains ***On Top***(according to the position of the On-Top toggle). Thus, by opening the DX Bar window and while using another program, you can keep an eye on the traffic and the operation of your transceiver…

Tip

To understand all the functions of the DX Bar window, it is advisable to have a good understanding of the controls and the functions of TRX-Manager. Only some functions are described here. Indeed, the DX Bar duplicates some of the commands available from the main toolbar as well as from the other modules. Some of these modules must be active (especially the Monitoring, the Terminalor the Web-Cluster) so that their functions can be used in the DX Bar.

Transceiver control

The DX Bar window displays the current **frequency**, **mode** and **filter**. Each digit of the display is click able: a **left/right click** changes a frequency (Up/down) by one digit while holding the left/right button allows scanning.

A left/right click increases/decreases the frequency

By default, the analog display (frequency bar) is moveable with the mouse for fast QSY's (drag the bar right to go DOWN in frequency, while dragging left on the bar will increase the frequency.

Moving the analog display provides fast changes of the frequencies

If the **Fixed scale** option is checked , the analog display (frequency bar) does not move while the indicator bar moves to the current frequency. Just click the frequency bar to set up a new frequency. This option is recommended in HAM bands since it allows displaying the whole band with all spots.

If you have Cluster spots displayed on the bar; you can go directly to the spot by double clicking in the MIDDLE of the callsign (not on the indicator bar).

If your transceiver supports **AF level control** via the computer, the slider sets up the gain.

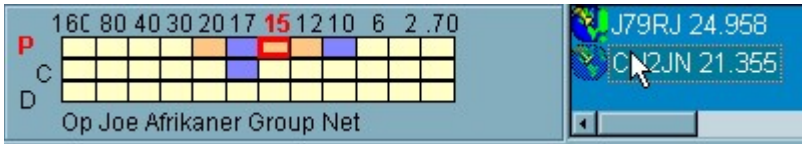
When the DXBar window is highlighted, all the Monitoring's Keyboard shorcuts are available.

Rotator

When a spot has been activated, the corresponding azimuth is graphically displayed. The Rotate button controls the rotator and will move it to the corresponding position :

DX Spots

The **DX Spots**received from either the Terminalor the Web Cluster are displayed in a simplified format. A left click or a double click on a spot (according to the option for Drag and Drop under the Preferences/Software tab) sets the program and the transceiver appropriately, while a right click momentarily displays the spotter comments and your progress towards the DXCC award for that country.

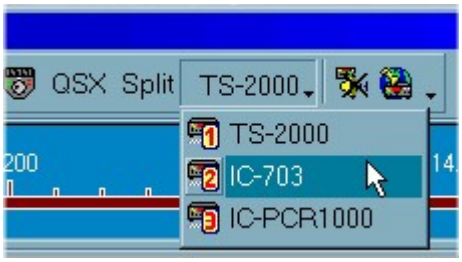


A right click on a DX Spot displays the DXCC award progress and the comment

Tools bar

The tools bar duplicates some buttons available from the main tools bar or from various modules. It is configurable so that more functions may be available.

- The **Paste** button opens the logbook and inputs the fields for the current Spot; however, the QSO is not saved – you need to click on the 'log' button of the logbook. The **Log** button reopens TRX (if it has been minimized) – and does not paste/input the current Spot.
- The **DX Squelch** toggle mutes the transceiver until a spot is activated or there is a frequency change or the **delay** specified under the **Preferences/Transceiver/Band Plan** tab has expired ..whereupon the receiver is reactivated (and if **AF gain** control is supported, AF is set to its previous gain)
- The **Auto-QSY** toggle : for each new DX Spot received from the Terminal (not WebCluster), the transceiver is set to the corresponding frequency. The status of the spots for which this function is activated is configurable from the corresponding drop-down (same icon) of the Terminal...
- The Operating Transceiver can be selected from the toolsbar of the DXBar window:



Note

*On some systems or computers, opening the DX-Bar window prevents the system menu of the main window from working (especially Maximize, Exit). In that case, you must use the **TRX** toggle (Maximise) or the **Exit** button of the DX-Bar window.*

Quick memories (QMB)

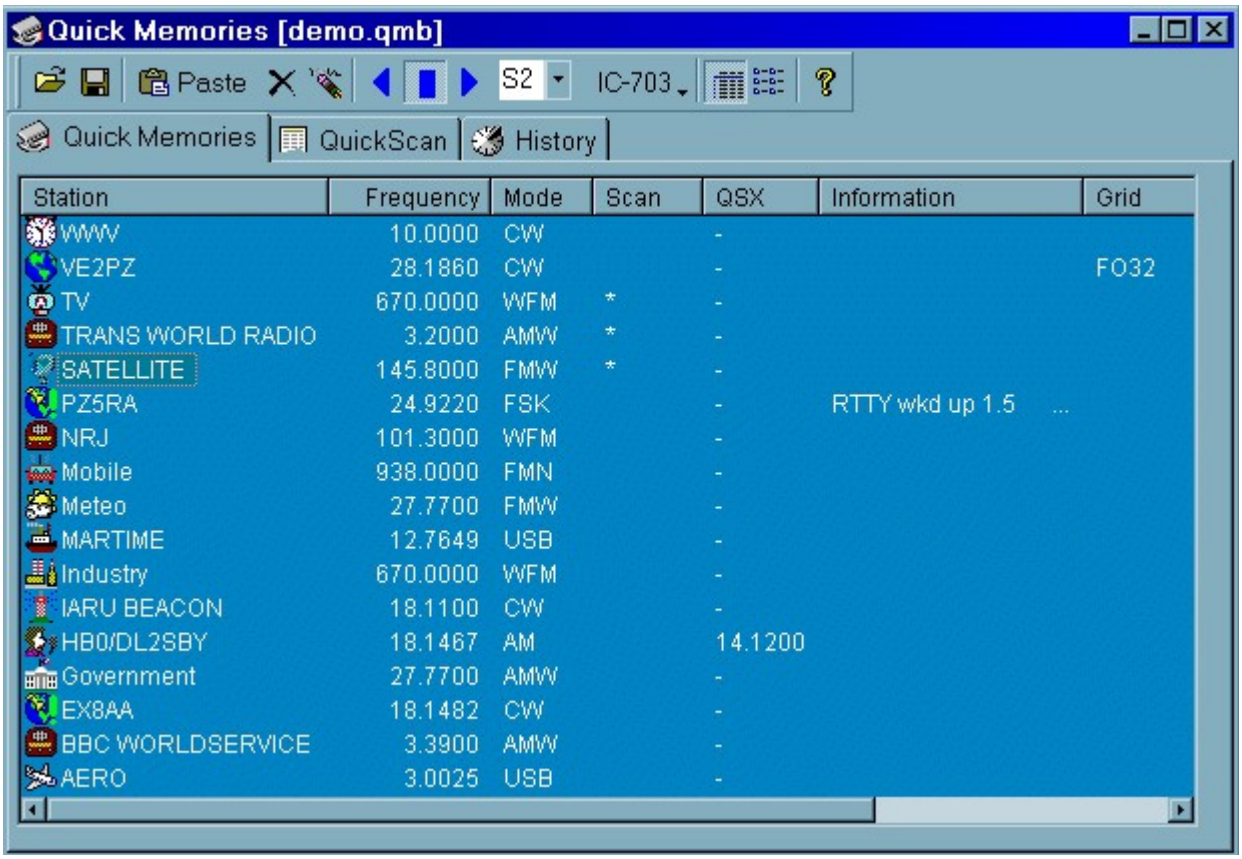
The Quick Memories of TRX-Manager are - by definition - simple and quick to use. Using the Quick Memories is recommended in real-time and especially to save DX-Spots.

See also (alternatives)

- Memory channels
- Short wave database

Opening the Quick memory window

The **Quick Memories** window opens from the **Display/Quick Memories** submenu (or **Ctrl-M**).



Using the QMB

Quick memories may be added by Drag and Drop or by using the **Paste** button. The Paste function memorizes the current frequency of the **Operating** transceiver as it is displayed in the Toolbar. The **STOP** button in the bottom right hand corner of the Monitoring window stores the current frequency while the **RCL** button recalls the last entered Quick Memory.

Quick Memories store essential parameters including those required in **Split** (**QSX**) or via **Repeaters** as well as geographical data (**Grid**). An **Icon** may be selected to provide a pleasant display of the various frequencies.

The context menu (right click) provides various operations with the quick memories and especially direct editing.

The **Erase** button erases all the quick memories while the **Delete** deletes the selected memory.

The **Open** and **Save** manages various files of quick memories (.qmb as extension) but please note these binary files are not directly editable.

Scanning

Scanning the quick memories bank is possible by using the appropriate commands

. Prior to scanning, you must include the desired Quick Memories into Scanning by checking the **Scan** option from the **Edit** dialog.

The **S0-9** allows defines the S-Meter threshold which pauses scanning (Squelch is not supported). The duration of the **Pause** during scanning (10s by default) and the Scanning **Speed** (30 by default) are defined under the Transceiver tab of the Preferences.

Quick Scan tab

The **Quick Scan** tab is not related to the Quick Memories. This tab displays the whole band plan but does not allow editing it directly. The advantage of this tab is that a double clik sets up the lower and upper limits of the internal Scanner of TRX-Manager; however, starting scanning must be started manually.

A right click on a segment initializes the Band Scope.

History tab

Each time you set a new spot or a new label, the **history list** is updated and allows you to fast recall of any previously visited frequency. The History tab allows you opening a context menu with various functions including PASTE to the Quick Memory Bank.

Quick Memories
QuickScan
History
Station
Frequency
Mode
Time
RW3PF
18.1027
FSK
12:56
RX3
10.1159
CW
12:56
SV1
18.1046
FSK
12:56
YO9
18.1017
FSK
12:56
OH2
18.1003
FSK
12:56
4L1
14.0859
FSK
12:56
ON5
14.0235
CW
12:56
UA6
7.0800
LSB
12:56
DG3
21.2250
USB
12:56
QSY
QMB
Delete
DXCC info
CD Rom
GoList
DXAtlas
Paste to Log
Search for QSO

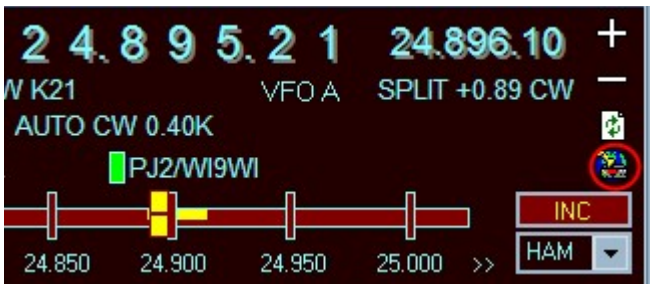
Current Spot

The **Current Spot** may be the name of the current channel in use, the SW station being listen to or the last **DX-Spot** set from a DX-Cluster or a Web-Cluster. This information is bound to the current frequency and will be memorized with the **channel**, the **VFO** or the quick memory.

It is displayed from the Monitoring or the Sub-Transceiver panels.

It is also very useful to set this spot-info manually (Main Transceiver only) from the **Edit/Info** (**F4**) submenu : then TRX-Manager immediately displays the status of your DXCC for the corresponding call sign, the beam heading and if the QSO has been worked before...

Because TRX-Manager keeps in memory the spectrum occupation, this information will be automatically displayed (for the 15 last spots) by only moving the main VFO knob! The Monitoring's **Spot centering button** provides a precise tuning to the right spot frequency.



Centering a spot

When used in conjunction with the DXCC windows this feature gives a spectacular result! Any previous visited frequency may also be recalled by using the Undo function.

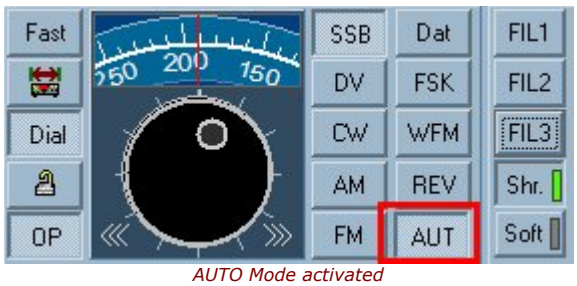
How to change the modes ?

TRX-Manager provides important functions to automate the selection of modes and filters according to your preferences.

The Auto-mode function

Eventually, you don't need to change the mode: the software does it for you by reading the the Band Plan!

By default **AUTO-MODE** is selected at startup but can be unselected at any time from the **AUTO** button (Monitoring's or Sub-transceiver's panels).



AUTO Mode activated

By default, **AUTO-MODE** is ON at startup. **If you don't like this feature**, please uncheck the **Auto Mode** option under **Preferences/Transceiver/Band Plan**. AUTO-Mode will be OFF at startup.

Notes

- *If a memory channel is selected from the main transceiver (mem is displayed) auto-mode is always OFF (Manual).*

In case of the mode is unstable

If the Mode is unstable ?

Depending on the transceiver and especially variations of the Shift between modes (SSB/CW), mode may be unstable between two sub-bands. Activating **Manual** mode is a possible solution.

However, the **BackLash** parameter from the **Preferences/Transceivers/Band Plan** tab adjusts the change of modes between two sub-bands and eliminates this behaviour.

In addition with Yaesu Transceivers, you may try setting up the shift between SSB and CW by adjusting the Pitch (or the CW/SSB offset) from the **Preferences/Transceiver** tab... The pitch is generally between 500 and 700 Hz.

Also, please check if a special parameter of your transceiver allows setting up to OFF "frequency corrections" between SSB and CW... (as it is possible with Yaesu and Kenwood transceivers).

AUTO mode disabled in Split

In Split, if VFOA and VFOB does not belong to the same segment, TRX-manager disables the Auto-mode to prevent any mode changes.

Reverse option

The REVERSE option (CW RTTY DATA) affects the sideband in CW and digital modes:

- **RTTY**: this option applies to FSK AFSK and SSB-DATA
- **DATA**: this option applies to PSK PKT and SSB-DATA

in RTTY or (other) DATA modes, the sideband is selected depending on the band segment of the band plan.

Setting up the Preferences for Filters (main transceiver)

For the Main Transceiver, you may associate a **Mode** and a **Filter** by entering your settings from the **Preferences** dialog under **Transceiver.** This selection is only valid if the mode is automatically selected by the program (band segment change, DX Spots...). If you change the mode manually (either from the transceiver's front panel or TRX-Manager) the associated filter for that mode is NOT selected.

Notes

- *If a DSP only is used, these filters are virtual and their bandwidths have to be defined under the DSP/PBT frame (see below),*
- *If Quartz filters are used, please select only the filters that are installed in your transceiver. If you select a non-supported filter, the effect obtained is unforeseeable and depends on the type of transceiver,*
- *With **FT-1000MP**, **TS-450/690/850/950** selection of either **455 KHz** AND/OR **8/9MHz** IF filters is possible,*
- *These settings are saved for each transceiver separately (TRX1 to TRX4)*

Variable DSP (PBT) filters

Most recent transceivers use a DSP and allow defining preset **virtual Filters**. Once the virtual filters defined, you may restore any of them automatically by using the Filter functions in TRX-manager (i.e FIL1-3, WID NAR Monitoring's buttons...)

If desired, you have to enable this function by checking the **DSP** or **PBT** option and filling in the various filter settings for each mode with the valid values permitted by the DSP (please read the transceiver's manual in order to check the valid values). Generally, if you introduce an invalid value, the program selects the nearest bandwidth. You may have to adjust these parameters to match the possible settings permitted by your transceiver and to suit your requirements.

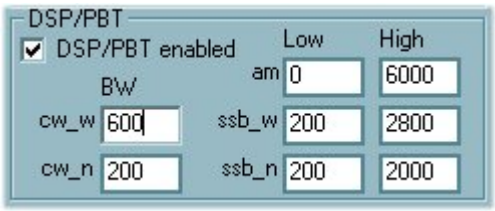
The displayed mentions, names and values depend on the brand you are using. Please read also the Specifications (this help) for the transceiver you are using for more information.

Notes

In CW, Bandwidth (BW) is centered on Pitch (*). I.E 600Hz or 200 Hz.

In SSB, Bandwidth may be defined by High and Low cut frequencies : Low=200 and High=2800 define a Wide SSB bandwidth of 2600Hz centered on 1500Hz while Low=200 and High=2000 define a Narrow bandwidth of 1800hz centered on 1100Hz.

However, if your transceiver does not provide IF-Shift function or Low/High Cut functions, High and Low values are only used to define the bandwidth (BW=High-Low) and the filter will be centered.



Suggested values (DSP filtering)

Please understand that these filters are virtual and, in most cases, without any relation with the fixed filters (eventually) installed in your rig.

*(*) In CW (especially with TS-2000 TS-480 and K3), it is important you introduce the exact value of the**Pitch** (**Preferences** under **Transceiver**) in order to set the CW bandwidth correctly.*

Macro buttons

The Monitoring, Sub-Transceiver and Remote windows have configurable **Function buttons** (or **Macro**). The Monitoring window supports up to 30 macros.

Not all transceivers support macros: generally all Kenwoods and ICOMs, Elecraft and recent Yaesus (FTDX9000 and later) support macro commands.

See also

- TRX-Command (which allows sending powerfull macro commands) via OLE to TRX-Manager.

Displaying the macros

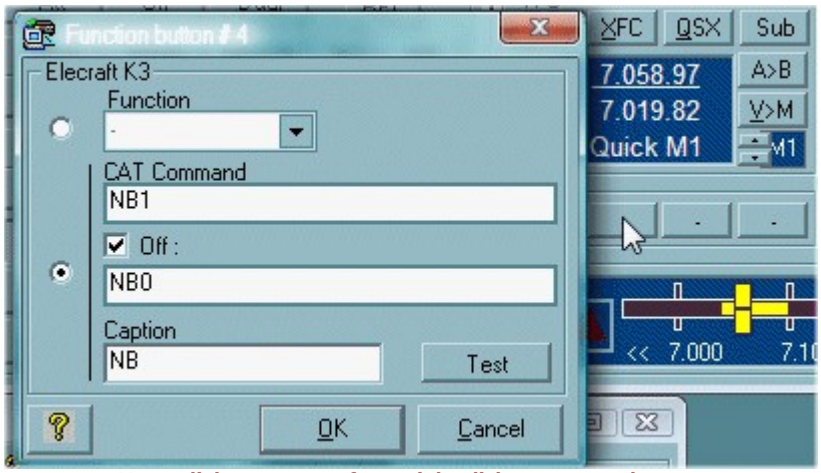
From the Monitoring, make sure the layout is configured to display macro buttons; if Macro buttons are not visible, please click the Monitoring's Configuration button to open the Configuration dialog.

Buttons options may differ depending on your transceiver. TRX-Manager offers **8 or 7+ 23** macro-buttons. In the case of 30 macros, button #8 **(...)** becomes a toggle between macros #1/#7 and #9/#31.

Monitoring screen with Macros enabled
Left : 8 macros only
Right: 7+27 Macros (more macros selected) + a toggle (...)

Setting up a macro button

At startup, captions of Macro buttons are blank (no label). To set up a macro: please right click a macro button and choose (in the dialog) either a pre-defined **Function** or a **CAT Command**.



Macro dialog appears after a right click on a macro buttons

Selecting a predefined function

If you select a function, please make sure the function is available and supported by your transceiver. Displayed functions may be (*) :

```
NB: Noise Blanker

NR: Noise Reduction
```

PRE: Preamplifier

ATT: Attenuator

ANF: Automatic Notch Filter

COM: Speech processor

RXA: RX Antenna

BC : Beat Cancel (TS-2000/480)

VOX : Vox

A=B : A=B

A/B : A/B

SPL : Split

UP1 : QSX up 1 KHz

SUB : Opens/Close Sub Receiver (or dual watch)

VFO: Set Frequency, mode...

QSX: Set QSX Operation
INF: Set current Spot (Info)
LOG : Quick Log (of current Spot) and Save

M>V : Current Channel to VFO

V>M : VFO to current Channel

PWB : restore default power for the current band (Preferences).

SPO : CWT+Tune (K3), Kenwoods(CW Tune)

(*) The list is variable from one rig to another.

Writing a CAT Command

Please type the **CAT command** in the corresponding text box. If **Off** is checked, the macro will be an **On/Off button** and two CAT commands are required. If Off is NOT checked, it will be a **command button** and only one CAT command is required.

The **Caption** field allows you to display a short name for the function. The **Test** button (if available) allows you testing the function immediately.

Depending on the type of transceiver (ICOM or Kenwood/Yaesu), the **Syntax** is very different. You have to use the correct syntax by referring to the Transceiver's manual (see also CAT Programming).

Multiple commands

Multiple commands (in a chain) are possible; the multiple commands are separated by a slash "/" (ICOM, Others) and/or a delimiter ";" (Yaesu/Kenwood/Elecraft).

Kenwood/recent Yaesus

The command is typed in using the format required by the manual (the last end delimiter " ;" is NOT required). Embedded commands are supported. i.e Mode USB = MD2

Elecraft

See kenwood. I.E : a useful macro Up2+Split = SWT13;SWT11;UP4;UP4;SWT11;FT1;

ICOM

Command is typed in using the format required by the manual but without Preamble + Addresses (FEFEXXYY) and without the End of message code (FD): only the command, the sub command and the data area are required. i.e Comp ON = 164401, Comp OFF = 164400. Multiple commands (in a chain) are possible; the multiple commands are separated by a slash (/).

If you prefix the data with $ (i.e $ FC12FB) the data are sent "as is" (without preamble, adresses and suffix) and you can add a preamble that is different from the one of the transceiver under control (ex : to control a linear amplifier).

Remote control mode

In remote control mode you can send commands to the server computer from Client. You use the same syntax as above depending on the type of remote transceiver you are using (ICOM: Comp OFF = 164400).

You may also send a remote control commandto the Server computer. You must use the TRX-Manager's remote control syntax and add ***** as preamble (Example: Disconnect = *RC0).

Others: generally not supported...

Setting up a macro slider

You right click the cursor of macro-slider to set up a macro-commands. From the combo box, you select either STRING for a Kenwood/Yaesu/Elecraft transceiver (+ some others) or you select ICOM (which uses hexadecimal data).

You use the same syntax as above but you add the necessary digits for a variable command. The command string includes as many * (joker) as number of digits required by the protocol. The Min and Max values are always decimal starting from 0 to 255 (generally but not always). The**Caption** field allows you to display a short name for the function.

Audio Gain (Kenwood)

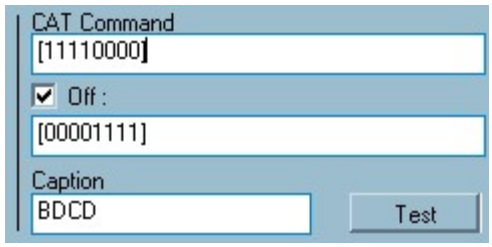
Example

ICOM *: Command for AF gain is 14010000 to 14010255. Syntax = 1401**** (4 digits required) with Min=0 and Max=255*
KENWOOD *: Command for AF gain is AG0000 to AG0255. Syntax is AG0*** (3 digits required) with Min=0 and Max=255*

Sending a command to the Band Decoder

Sending a direct command to the band decoder is possible provided:

- The format of the command is the format defined for the band decoder you are using (Parallel port = 8bits, Com port = ASCII or HEX).
- The command to the band decoder is inserted inside square brackets **[xxxx]** (no space before or after the square brackets)



Command sent to a parallel band decoder

Band Plan

TRX-Manager implements various functions related to the **Band Plan**. When you run TRX-Manager for the first time, you are prompted to define your **IARU** region:

- **Region 1**: Africa, Europe, Russia, Middle East (excluding Iran) and Mongolia.
- **Region 2**: North and South America including Hawaii, Johnston and Midway Is.
- **Region 3**: The rest of Asia and Oceania.

You may set Preferences for each band such as Mode and miscellaneous parameters (**Antenna, Rotator, Tuner, Power...**) under the **Preferences/Transceivers** dialog:

See also

- Band Decoder
- Synchronization (RS232)
- Rotator control
- Modes and filters

Band plan editing (Preferences)

Band Plans for each IARU region are provided as CSV files (**region1.csv region2.csv region3.csv**). The **Open** button lets you load/change a band plan by selecting the appropriate file. Once your Region is selected, your default band plan is saved under **bandplan.csv**.

You may edit bandplan.csv from Excel or edit the band plan from the **Preferences** dialog, under **Band Plan** . Please make sure you describe the entire spectrum with no error or frequency holes:

- Click a line to edit; clicking the **Save** button saves the changes.
- The **Add** button **(+)** adds an empty line (0-0 MHz LSB) for editing.

Specific fields

- ***Comment*** *field will be displayed by the Monitoring*
- ***HAM*** *check box defines the segments for which transmission is allowed. TRX-Manager does not prevent you from transmitting outside HAM segments but displays a warning message (**OUT OF BAND**).*
- ***Type*** *indicates the type of transmission (Phone, CW, Data, BCL, Air...). It is more accurate than Mode. It allows precise DX Spots filtering and graphical display of the type of transmission (by Icons) in the Quick Memories module .*
- *The **B-DCD** field is optional and related to the Band Decoder : If the Band decoder's Segment option is checked (under **Setup/Band Data**), this field provides the command required to control the band decoder for each segment.*

80a/80b or 10a/10m band option

The Band Decoder offers an option to split either the 80m or the 10m band in two segments. See Parameters/Setup/LPT and define the limit between the two segments.

Digital modes

*The band plan provides two digital modes **RTTY** and **DATA**. By default LSB is affected to RTTY and USB is affected to DATA. Any other mode can be selected from the **RTTY=** and **DATA=** combo boxes, e.g: if your transceiver does not support the digital modes, you can select CW. Or you can select LSB USB FSK PKT PSK DATA (=LSB-DATA in RTTY, USB-DATA for the other digital modes) depending on the digital modes supported by your transceiver.*

The REVERSE option (Transceiver tab) affects the selected sideband in RTTY or DATA modes.

See also : DX Spotting, MMVARI

Automatic mode switching

By checking **Auto Mode**, automatic mode switching is selected by default at startup. It is always possible to activate/deactivate this function from the Monitoring window (**Auto**) or a Sub-Transceiver panel for a particular session.

The **Backlash** field (in Hz) prevents from quick and unstable changes of mode near the limits of two segments. Generally 1000Hz is enough.

Restoring the default Bandplan

If the **Auto mode** is malfunctioning, your **bandplan.csv** file may have been altered. You may have to select your **Region** again by opening one of the **Region*.csv** file or the IARU button. This action erases any previous version of bandplan.csv.

Miscellaneous settings

Under the **Rotator/../Misc...** tab of the **Preferences** you may assign a different **Rotor** and depending on your transceiver (*), **Antenna**, **TX Power**, **Tuner** or **Linear** amplifier options for each HAM band. If TX Power is blank, the program does not set any value.

These settings are saved for each transceiver separately (TRX1-4).

(*) they are direct commands which are not supported by all the transceivers.

DX Squelch

If **AF gain** control is supported by your transceiver and according to the status of the Main toolbar's **Tools/DX Squelch** button , AF is muted after a given period of inactivity. The specified delay can be defined under the Band Plan tab of the Preferences. AF Gain is set to its previous value as soon as you set a dx-spot or you change the frequency.

Band Decoder

TRX-manager can control external accessories (such as automatic selection of antenna, linear amplifier, external controller) by using band data provided on a parallel port or commands sent to an RS232 port.

Tip

Kenwood does not implement any band data directly on the radio and there is no "Kenwood format". ICOM provides the band data via an analog voltage signal. For the ICOM and Kenwood radios, the TRX-Manager's band decoder provides a simple solution for the remote control of antenna switches or other accessories.

Parallel port

The default format for the band data is compatible with the most popular software (CT, NA, TR-Log...), Yaesu accessories and many third party device (Band Decoder + Relay Box). In addition, the band decoder is programmable which allows you customizing it to your particular needs.

RS232 port

The format depends on the controller you are using. Default values are compatible with the MicroHam MK2R controller but you can adjust these values according to the wiring of the accessory port or the controller you are using. Hexadecimal or ASCII commands are supported.

Related Topics

- Band plan
- SO4R

Settings

You set up the band decoder from the **Parameters/Setup** dialog under the **BAND DCD** tab.

Parallel port

Please choose a free LPT port because the decoder can not be used with any other device (i.e. a printer...). However, the decoder is compatible with the CW Interface of TRX-Manager.

To set up a non standard LPT (such as USB/Parallel adapter), please do the followings :

- from the System Properties, note the base address for that LPT port. Address should be in the XXXX-YYYY format. Note only XXXX.
- from TRX-Manager, open the Setup dialog and under Band DCD select **Custom LPT** as LPT Port. Fill in the **address** box (**H**) with the base address XXXX of the LPT Port.

RS232 Com Port

Select a free COM port and fill in the settings accordingly (do not select Handshaking if your controller does not use it: this may lock up the program).

Default command format is **ASCII**. If you use the Hexadecimal format, check **HEX**.

Band/Segment

The Band/Segment option defines the way the band data are defined.

- If **BAND** is checked (default), band data are defined for each band (GEN, 160m to 70cm).
- If **SEGMENT** is checked (for Expert) band data are defined for each segment of the band plan under **Preferences/Transceiver/Band plan** .

10m and 80 m sub-bands

By default the program splits the 10m band in two sub-bands. You may choose spliting of the 80m band and/or define the limit for each subband. The choice of the sub-band applies to many parameters such as: band decoder, antenna, rotor...

COMMAND FORMAT

Parallel port

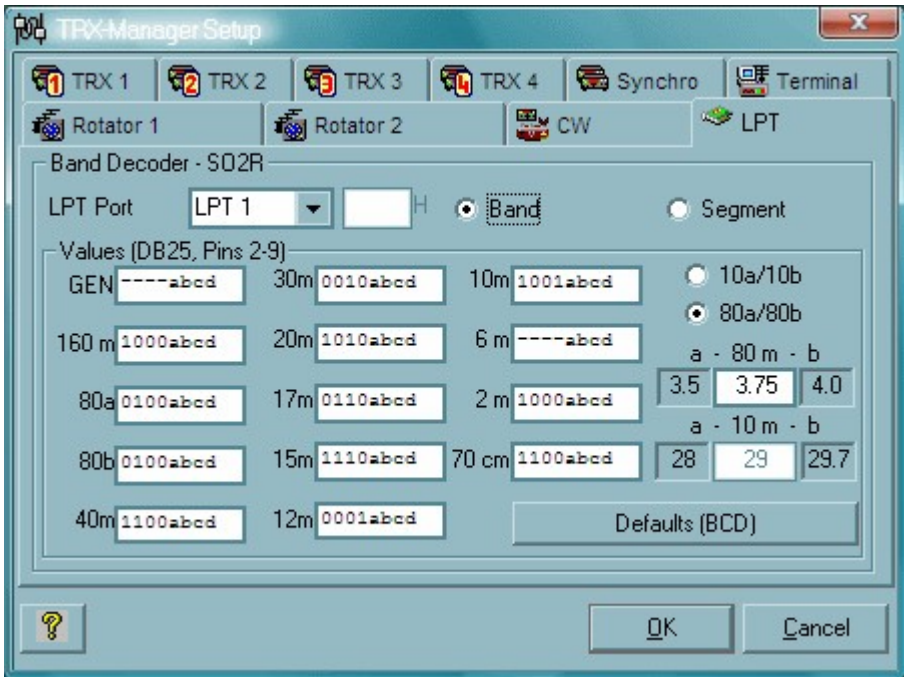
You use a BCD (Binary Coded Decimal) format on 8 bits which allows controlling pins 2 to 9 of the parallel port. The default format emulates a Yaesu radio on pins 2-5: you can always return to the Yaesu format by clicking the **Default** button.

You may program pins 2 to 9 by modifying the strings assigned to each band. Each character of the string represents the state of a pin (from 2 to 9), as follow :

"0" : *low state*
"1" : *high state*
"-" : *not used*
"a-d"*: see SO4R*

Examples :

1100---- *: pins 2 and 3 are at a high state, pins 4 and 5 are at a low state, pins 6 to 9 are not programmed*
10010000 *: pins 2 and 5 are at a high state, other pins are at a low state*



LPT Band Switch (default = BAND Checked)

The length of each string is limited to 8 characters.

The band decoder can also be used to send the **Transceiver Number** to the LPT port (see also SO4R) by configuring the BCD code with with **a b c d** parameters ; in addition and for compatibility with some applications, TRX-Manager sends Transceiver number (1/3 or 2/4) to **Pin 14** .

The band decoder can be used in conjunction with the linear reminder to control a linear amplifier relay ; in that case, you define _ for the state of the corresponding pin (i.e: 0100_abc, pin 6 is not used by the band decoder and can be selected to control the linear amplifier relay).

RS232 Commands

The band decoder is conceived to send any numbers of characters. You have to choose between ASCII format and HEXA decimal format. ASCII is the default but Hexadecimal is mandatory if you have to send non printable characters other than CR.

ASCII format (default)

Default values are compatible with the MicroHam MK2R controller however, depending on how the accessory port is wired, you may have to adjust these commands for each band (or segment). You may also write specific ASCII commands for any other RS232 compatible device.

To send a carriage return, use the underscore character _. TRX-Manager will replace any underscore with a carrage return (<CR>). Example AS103_ : AS103<CR> is sent.

Hexadecimal format (HEX)

You write the commands using the hexadecimal format: Example **0F011A**

If the commands are documented using ASCII numbers - like chr$(044) - you have to translate ASCII commands into HEXA Decimal: 44 (ascii) = 2C (hexa)...

Example: This format must be used with the ProXR Series Relay Controllers, this video by Randy K7AGE

Using the band decoder

There is only ONE **Band decoder** ; it is selectable (on/off) for each Transceiver (TRX1-4) from the **Rotator/Ant/Misc** tab of the **Preferences/Transceiver**.

The Monitoring must always be active in order to update the band data for the Band you are using. However, depending on your transceiver and the way you use the software, this information may be transmitted with a delay or may be erroneous: please perform many tests before "going live" and make sure the desired switching is done correctly before transmitting.

Sending macro commands to the band decoder (LPT or COM port) is possible. You must use the syntax explained above, however, in that case (only), the command must be inserted inside square brackets (no space before or after the square brackets). Example: [11110000] or [AS103_]. If the macro command is not inserted inside square brackets, it is sent to the transceiver!

Notes and possible problems

LPT Ports not supported

- **Windows 8/10/64bits** : Under recent versions of Windows 810//64 bits, the (third party) LPT driver does not work.
- **USB/LPT converters**: the drivers writen for the USB/LPT converters are rarely compatible with the use of a band decoder (PINS 2-9 are not programmable).

In both cases, since these problems are related to the way a third party drivers is writen, it is not possible to fix TRX-Manager. The best way to set up a band decoder is to use an RS232 compatible device: now, many exist on the market.

Drivers not found or not installed

Please login as administrator and reinstall the program; don't forget to reboot your computer to complete the installation.

Single Operator Four Radios (SO4R)

Under TRX1, **SO4R** check box enables support for **Single Operator Four Radios** operation.

SO4R has the following (optional) effects:

- "Sends" the Transceiver number to the LPT port (parallel band decoder)
- OLE, Band decoder, Synchro functions follow the Operating Transceiver (while, if SO4R is NOT checked, these functions are only activated for the **main transceiver**).
- Support for the launching of registry files at startup (see below)

LPT Port in SO4R Mode

Setting up the parallel port

To use the parallel port in the context of the SO4R mode, you have to set up the band decoder for a **parallel port** (the RS232 band decoder is not usable for this application). Choosing and setting up the parallel port is made from the **BAND DCD** tab of the **Parameters/Setup** dialog.

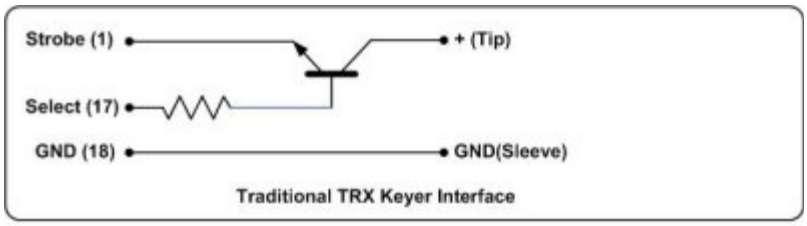
Available informations on LPT port

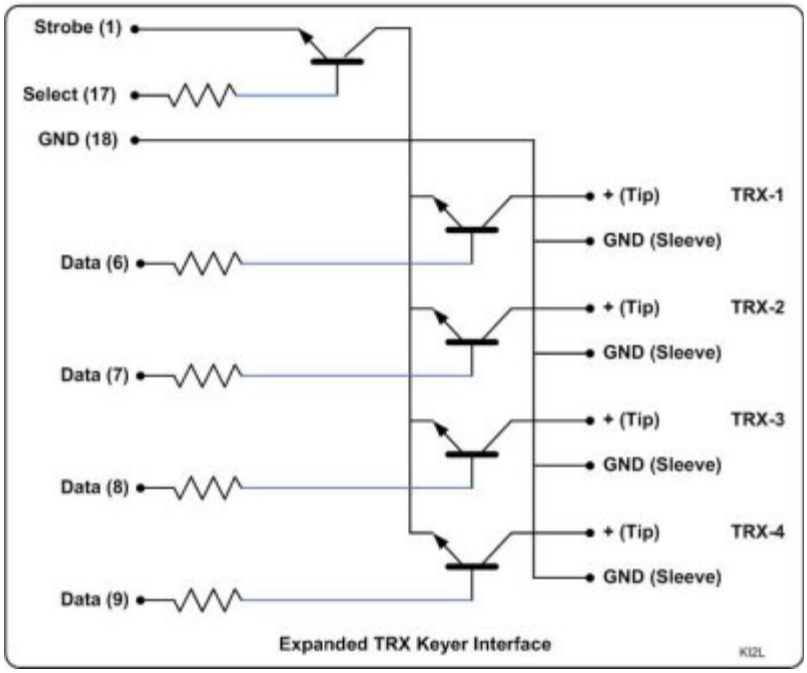
If **SO4R** is checked, TRX-Manager sends the Operating transceiver 's number as follow:

- **Pin 14**: **High = TRX1**, **Low = TRX2, High = TRX3, Low = TRX4** (CT/WL/TR format).
- **Pin 2-9**, depending on the **a b c d** flags of the band decoder, the corresponding pins are activated at a high level as follow: a = TRX1, b = TRX2, c = TRX3, d = TRX4. The purpose of a b c d flag is to indicate which rig is operating and can be set ON for each band ; of course only one pin will be activated at the same time: the pin corresponding to the Operating transceiver **abcd** means the 4 rigs may be set on. **0bc0** means only rig #2 and rig#3 may be set ON. etc... If you use rig#1 on all HF bands and rif#2 on VHF bands (including 6m), you may have **a000** from 160m to 10m and **0b00** for 6m to 70cm... If you use rig #0 or rig #2 on all bands, you will have **ab00** on all bands but only one pin will be activated depending on which rig is Operating.

Example by Bob KI2L : A multi-radio LPT Keyer Interface.

One of the challenges when operating TRX-Manager's SO4R in CW mode is that the keyer is designed for a single radio setup. You have to move the keyer jack manually between radios... not very convenient. Bob designed a 4 rigs LPT keyer interface: the design is simple, replicates the LPT keyer once for each data line used in the band decoder that indicates which trx is in use. These are pins 6,7,8,9 by default, representing trx 1,2,3,4 respectively. The emitter of each keyer transisor is however, driven from the collector of the original LPT keyer interface.





Multikeyer interface by Bob KI2L

Example 2 : Controlling the state of your linear amplifier

A specific PIN of the LPT port may be assigned to control the state (Standby/Operate) of your linear amplifier. Of course a very basic interface (transistor, reed relay) has to be built between the remote ports of your transceiver, your linear and the LPT port since TRX-Manager does not control your amplifier directly!

The purpose of this sample is to control the state of your amplifier while you are running TRX2.

- **SO4R** must be checked (Setup/TRX1) and a parallel band decoder available and properly configured
- **Band Decoder** must be checked (Preferences/Transceiver while running TRX2 as Main transceiver).
- Example: you choose **PIN 7** for this function (you may choose any PIN between 2 - 9).
- **PIN 7** has to be wired to control the linear relay line between your transceiver and your amplifier
- Settings for the Band Decoder (under Setup/BAND DCD):

*__b__ flag is assigned to TRX2 by TRX-Manager (PIN 7 uses **position #6**)*
160m** = 1000a__0__cd => PIN 7 at low level => **Standby
20m** = 1010a__b__cd => PIN 7 at high level => **Operate for TRX2

See also : Linear Reminder

Support for registry files

If **SO4R** is checked, TRX-Manager searches for **TRX1.REG to TRX4.REG** registry files in its main program folder. If a TRXi.reg file is found the registry keys are set up for the corresponding transceiver (TRX1.REG for TRX1... - TRX4.REG for TRX4). This function makes it possible to switch parameters for an external program, a sound card, etc...**WARNING :** On **VISTA/W7/8** this feature will only work if you run TRX-Manager with Elevated Administrator Rights : "Run as Administrator" checked.

Drag and Drop

TRX-Manager provides fast transfers of frequencies by using **drag and drop**.

How to ?

The **drag and drop** feature is possible from/between some windows or labels. You only have to hold the left mouse button and to drag the corresponding icon and to drop it into an another label or window.

If a window doesn't allow dropping a frequency, the mouse pointer changes as follow :

Windows supporting drag and drop

The drag and drop is supported by the following windows :

- Monitoring (Receive frequency's display, VFO A, VFO B, Channel)
- Sub-Transceiver panel (frequency display)
- Quick Memories
- Channels
- S.W database
- Commands panel
- Web Cluster
- Terminal
- Recorder
- Logbook
- DX-Map
- Remote
- Logbook (Data control)
- Status bar (to a second transceiver)

Note that some of theses windows only support dropping a frequency.

Some examples of use

You will find certainly various applications but the most obvious are the followings:

- Fast loading of the channels and dynamic use of the channels with spots of a cluster,
- Fast loading of frequencies from the **Monitoring** to the S.W. database window,
- Adding a QSO in the logbook from any DX-Spot window (the Spot must be dropped into the datacontrol located in the lower area of the logbook window)

PTT Switching

By default, TRX-manager uses a CAT command for RX/TX switching and you don't have to configure PTT switching!

However, if this CAT function is not supported (IC-706MKIIG is a typical case), PTT Line switching is possible via the **RTS** or **DTR** line of a serial port (CAT or CW Port). In addition TRX-Manager provides a way to read the state of the transceiver's PTT line by using the **DSR** or **CTS** line of same serial serial port (TX Interrupt option).

What is the use of these functions ?

The **PTT switching** feature allows you, if necessary, to separately switch the PTT of a transceiver which does not support the corresponding **CAT** command. Moreover, in the case of use of preamplifiers or linear amplifiers, it can be preferable to have a separate switching circuit so relays can be transferred before actual transmission is started.

You have to wire an interface (see CW interface for some diagrams).

The **TX interrupt** (advanced) feature makes it possible for the program to detect a manual switch into TX and thus to stop certain functions such as a CW sequence or a loop (in connection with Voice Keyer Express).

PTT Time Out option (all rigs)

From **Preferences**, under **Transceiver** tab, a PTT Time Out option is available (after a specified delay in seconds).

PTT switching

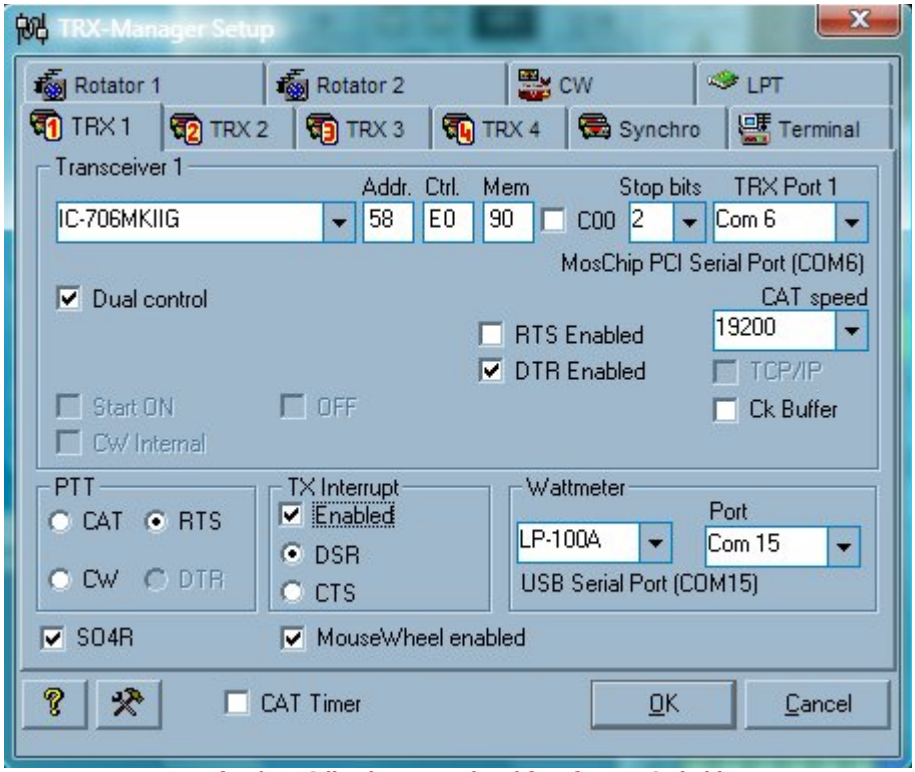
Under the Parameters/**Setup/TRX1** tab, **PTT** frame, you have different options to control TX/RX switching:

- **CAT** (default) is usually checked if the RX/TX command is supported by the CAT/RS232 protocol of your transceiver (please see its manual). This option sets TX/RX by direct CAT control,
- if **DTR** (or **RTS**) if checked, the program sends the TX/RX signal to the DTR (or RTS) line of the transceiver's serial port. In that case, you have to disable the corresponding line of the RS-232 interface under the Transceiver frame (see notes) to make these options available,
- **CW** if checked, the program sends the TX/RX signal to the unused line of the CW interface's serial port (i.e : if you key CW via DTR, RTS will be the PTT line...). Of course, if you key CW via the transceiver's serial port, this option is not available...

Notes

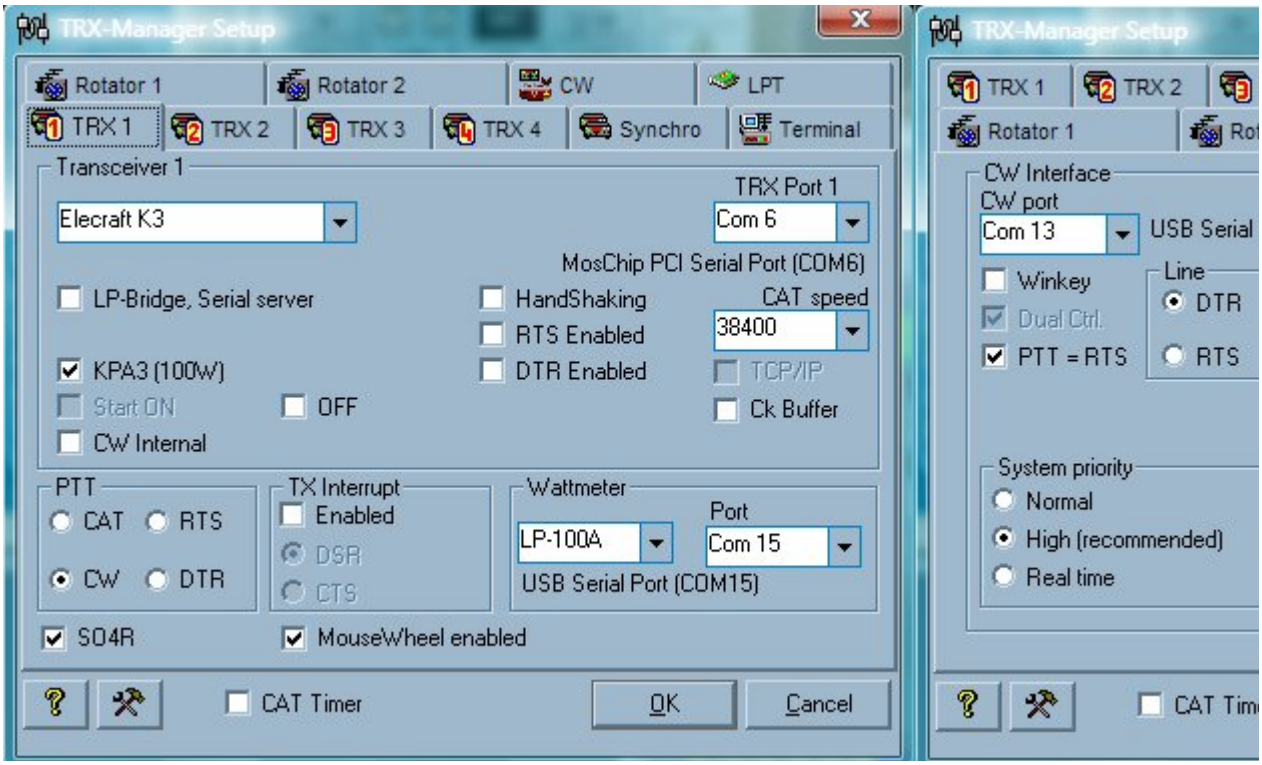
- *Generally RTS and DTR lines are not required by the RS232 protocol to control the transceiver but you may have the following cases : (1) One line may be required to power ON the interface: in that case, this line (RTS or DTR) can NOT be used for PTT Switching (see the documentation of your interface). (2) If your transceiver requires the RTS/CTS line for Handshaking (Kenwood and TenTec) you can NOT use RTS for PTT Switching (or CW Keying).*
- *Whatever the option you choose for **PTT switching**, the TRX-Manager's CW interface sends a TX/RX signal to its unused line (DTR if you key RTS, RTS if you key DTR...) for compatibilty with Rigblaster or other similar devices. See also CW Interface settings for more information,*
- *If you must key the transceiver's PTT line via DTR or RTS but **using a different com port** that the one used for CAT control, please check the **CW** Option (PTT via CW Port). In that case, you must set up the CW interface (even if you don't use it) and open the Keyer module in order to activate the corresponding com port (see CW Interface settings for more information),*
- *Under **Windows ME**, please see the Troubleshooting/Serial port section for more information about the DTR and RTS lines.*

Example 1: CAT on COM 6, PTT Keying using COM6's RTS



Interface's RTS line is not used and free for PTT Switching
RTS line is used to switch PTT
DRS line is used to detect a TX Interrupt condition (advanced)

Example 2: CAT on COM 6, PTT Keying using RTS Line of COM13 (CW Port).



PTT Keying is selected using the CW Port
CW Port is COM 13, CW Keying uses DTR
PTT Keying is done by RTS on COM13

How to toggle from RX to TX (PTT)

Switching PTT ON/OFF is possible from the **Monitoring** window: **Key** button or **K** from the keyboard. Moreover, the CW interface features an Auto TX feature.

TX Interrupt (advanced)

The TX interrup line allows detection of the RX/TX state via the DSR or CTS line. It is set up for each transceiver as follow :

- The **Enabled** check box (**TX Interrupt** frame) is usually not checked
- Otherwise, you activate the TX Interrupt function by the one available circuit **DSR or CTS** (often the CTS line is used by the RS-232 interface and is not available for this feature).

Notes

- *Do not check the TX Interrupt option if you don't need if because if your RS-232 interface uses one of the DSR or CTS lines, the program could interpret this condition as a TX command*
- *The TX Interrupt circuit must be electrically independent of the PTT line. If both PTT and TX Interrupt are mixed, the program will not be able to distinguish a manual switching from a switching via CAT (the effect is to lock the CW interface or **VKE**).*

Synchronization

TRX-Manager can synchronize - via an RS232 port - between the transceiver under the control of TRX-Manager and any external device or software which supports **Kenwood ICOM K3** (+SteppIR, ACOM600S) protocols:

- A logging program with CAT Control, PowerSDR-IF (a port mapping software is required or a null modem and two free serial ports)
- An external device: Tokyo HP, SPE, ICOM PW1 amplifiers, ACOM600S, Antenna Tuners...,
- The **SteppIR** controller (supported with a specific setup)

By default, synchronization follows the Main transceiver only. However, if SO4R is checked, synchronization follows the Operating transceiver (provided Synchro mode has been enabled for this transceiver)..

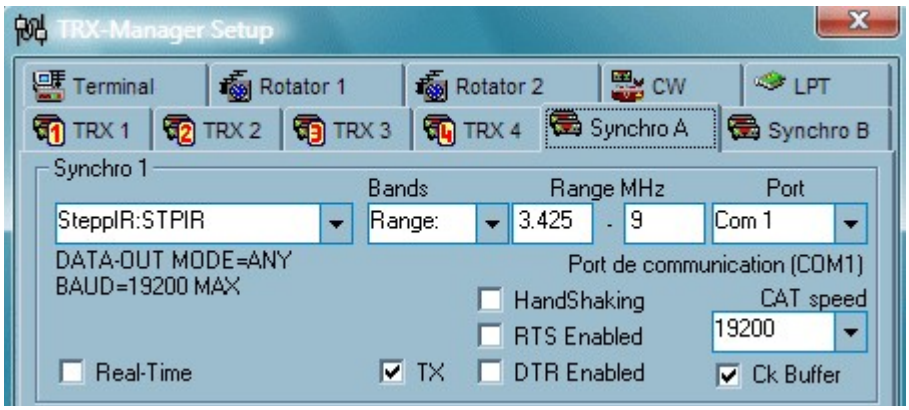
From **Setup** , you can choose to synchronize up to 8 different controllers : i.e a SteppIR beam under **Synchro 1** and a software under **Synchro 2** (**Synchro A** tab). However, controllers #2 to #8 (**Synchro B** tab) require to be set up with Kenwood protocol only.

See also

- Amplifiers
- Band Decoder

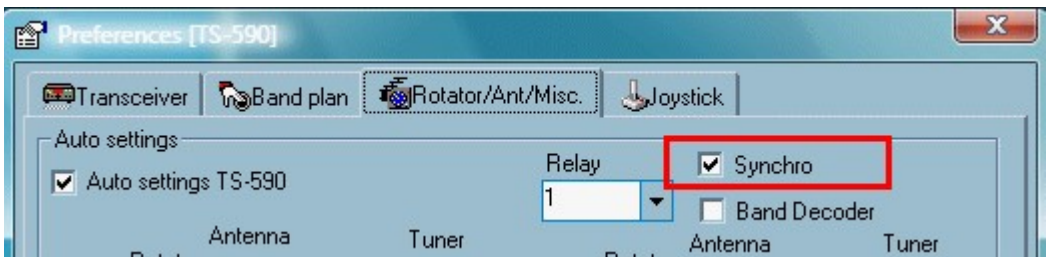
Settings

1) **Synchro A** tab of Setup (Synchro 1 or Synchro 2) must be set up with the desired **Protocol** (ICOM, ICPW1, Kenwood, SteppIR, K3), **Serial port** and **Speed**.



Synchro for SteppIR (native mode) selected for Com1/19200 bds (Synchro A)

2) If more than 2 controllers are required, you fill in **Synchro B** tab for up to 6 additional com ports using the Kenwood protocol.
3) Synchronization is ONLY activated (and effective) for the transceivers for which **Synchro** option is checked under **Preferences/Transceivers/Rotator...**



Synchro option - if required - must be checked for each transceiver (Preferences)

4) By default the Synchronization is only activated for the main transceiver. If SO4R is checked (**Setup/TRX1**), synchronization is also effective for the sub-transceivers (provided the Synchro mode has been activated for these transceivers).

Synchronization starts as soon as you start the program and for the whole session. If the serial port is already in use, an error message is displayed in the status bar.

Note

Synchronization does not work if TRX-Manager is reduced in the task bar

Synchronizing a SteppIR antenna

While an Y-Cable may sometime be used to synchronize a SteppIR controller and a transceiver under the control of a logging program (with mixed results), TRX-Manager allows much better control by implementing a special tracking algorithm and providing an exclusive connection between the controller and a dedicated serial port.

A free serial port (defined under Synchro A tab) and a **null-modem cable** (as the one supplied by SteppIR) between the computer and the controller are required. **An RF choke is recommended on all cables connected to the controller since the transceiver interface is sensible to RFI.**

The **Synchro A-1** tab provides three choices:

- **STEPPIR:KENW**:This selection uses the **Kenwood** protocol. Consequently, you must configure your controller for **KENW** mode and (preferably) **19200 bauds**. You must connect the cable to the **DATA-IN** connector. This mode allows frequency tracking by generating Kenwood FA and IF commands,
- **STEPPIR:STPIR** (recommended): **Synchro 1** only for full support. This selection uses the native SteppIR protocol. This mode allows remote control of the antenna from the SteppIR Window (to open from the **Tools/SteppIR** sub menu). You must connect the cable to the **DATA-OUT** connector and select any speed up to 19200 bauds from the Transceiver Interface menu (any Mode may be selected if you use the DATA-OUT connector). **Ck Buffer** checked is recommended in that case (the program checks for an empty buffer before each command: the SteppIR's buffer beeing very small, this reduces the number of collisions and errors but the program may lock up with some comm drivers like Prolific).
- **STEPPIR:DLL**: STEPPIR:DLL is identical to STEPPIR:STPIR (native protocol, data-out) but the driver is totally different and totally outside the main program. This may help in some cases if your controller does not run properly with :STPIR.

The **Synchro A-2** tab provides the STEPPIR:KENW and STEPPIR:STPIR selections but with limited functionalities (no graphical interface, no SteppIR window).

Some options are provided from Setup (and from the SteppIR window):

- **REAL-TIME** NOT checked (recommended) updates the controller only when you STOP tuning (after a 2s delay) and avoids any RF noise generated by the stepper motors to happen during scanning. REAL-TIME checked updates the controller as soon as you tune the rig.
- **BAND**: Synchro may be enabled for all bands (ALL), a specified range of frequencies (RANGE) or a specified antenna ANT 1-4 (this last option requires your transceiver can transmit the selected antenna to the computer and it is not compatible with sub-transceivers and REAL TIME),
- **TX** (checked) : Synchro follows TX Frequency, Unchecked RX requency

Once configured, the SteppIR controller must be set up for **General Coverage Mode** ; at this point a **POWER OFF/ON** sequence is recommended to reinitialize the communications.

However, don't forget to activate the **SYNCHRO** mode for the current transceiver (if needed) from the Preferences/Transceiver/Misc tab.

By default, Synchro follows the TX frequency (or RX if TX unchecked) ; **>> STEPPIR** flashes in Monitoring confirming that new data has been sent to the controller ; if the controller does not follow, make sure **Split** is OFF! Near the middle of each 10KHz segment (xx.xx5 MHz), changes of less than 2KHz are ignored (1KHz below 7.5 MHz); this "hysterisis" avoids frequent and undesired tuning of the controller near the limits of a segment.

Ck Buffer checked is recommended with STPIR. If checked, the program checks for an empty buffer before sending any new command. This reduces the number of collisions but the program may lock up with some comm drivers (like Prolific).

The SteppIR window

The SteppIR window opens from the **Tools/SteppIR** submenu and provides various functions and displays (Synchro A-1 only).

SteppIR Window (DATA-OUT)

AUTO engages an auto-tracking mode (the antenna follows the operating transceiver). In some cases of operation (i.e. reversing TX/RX while Split is ON) you may find necessary to unchek the **Auto** button to disable frequency tracking (however, Auto OFF keeps the controller connected).

->> allows a manual update of the controller (including outside of the defined frequency range).

Additional options are provided from the **Options** dialog:

- **Set OFF VOX** allows setting OFF VOX while tuning for SSB and/or CW (only if your transceiver provides the corresponding CAT commands),
- **Correction for 8.50MHz to 9.20MHz** fixes a firmware's bug which does not accept frequencies between 8.50 and 9.20MHz (allows acceptable tunings for SW listening: 8.5-8.85=8.5MHz, 8.85-9.2=9.2MHz). This problem has been fixed by SteppIR for the most recent firmware.
- **Polling interval (ms)**: delay in ms between status commands. 1200ms is the default. If your interface locks up frequently, please try to increase this value.

Notes

- *If the current frequency of the antenna is not displayed, press the ON button to wake up the controller,*
- *If you use STPIR mode and connect the cable to DATA-IN, frequency updates are processed by the controller but the SteppIR window is NOT usable (commands are inoperative),*
- *In native mode (connected to DATA-OUT), if the controller does not track properly or COMM ERROR is displayed... please try switching On the Transceiver Interface (using the ON button) or the Controller's Power button to resume normal operation,*
- *If COMM ERROR appears too often, please try to uncheck REAL-TIME and to increase the polling interval (up to 3000ms).*
- *Defaut for Stop Bits is 2. In some cases it appears working better with Stop Bits = 1.*

SteppIR: Limitations

The SteppIR controller firmware is limited to due to the lack of memory space on the processor/buffer - THEREFORE - some functions like HOME or CALIBRATE do not always work as expected. PLEASE note the appropriate information in these instructions:

- If the controller opens Setup while you press Home or Calibrate on screen please switch Power Off/On on controller to resume (a power OFF/ON sequence is always recommended before you start any communication),
- If Calibrate retracts elements and stops here, press Interface to re-enable the transceiver interface.
- Interface does work between ~8.55MHz and ~9.15 MHz (see options, depends on firmware)
- The first time 12v is applied to the controller AMATEUR and GENERAL FREQ settings may be shifted (depends on firmware) : workaround is to select AMATEUR mode before you select GENRERAL FREQ

The null modem cable must ABSOLUTELY have no connections other than pins 2,3 and 5. SteppIR put signals used for test and alignment on the other pins and USE OF A STANDARD "FULL HANDSHAKE" NULL MODEM CABLE WILL FAIL.

Synchronizing a third party device or a software

The principle is the following: for the serial port selected under Synchro A/B tabs, TRX-Manager behaves like a Kenwood or ICOM or K3 transceiver whatever the rig under the control of TRX-Manager. You must connect this serial port using a null modem cable to the unit (or the software) configured for Kenwood or ICOM protocol.

The corresponding unit or software must have support for Kenwood/ICOM/K3 protocol. If the controller is a software running on the same computer, you need one additional free serial port + a null-modem cable or you can use a serial port mapping software like VSPE.

See also : Linear amplifiers

Tip

ETERLOGIC's VSPE Service (Virtual Serial Port Emulator) can be used to create a **PAIR** of virtual ports. **VSPE** can be started as a service using NSSM (Non-Sucking Service Manager)

Synchronizing a software

The logging program must have support for Kenwood or ICOM Transceivers and you need two free serial ports on your computer + a null-modem cable. You may also use a different computer or, while often more critical, a port mapping software which creates at least two virtual com ports and a virtual null-modem connection (see Eterlogic VSPE).

The principle is the following: for the serial port selected under Synchro A tab, depending on your selection (Kenwood or ICOM) and/or Synchro B tab (Kenwood), TRX-Manager behaves like a Kenwood or ICOM transceiver whatever the rig under the control of TRX-Manager ; you must connect this serial port to the serial port configured from your logging program with a null modem-cable.

Unless specified below, the Kenwood protocol is recommanded to synchronize a third party program.

Example

You control an FT-1000MP with TRX-Manager and COM1. Your logging program is configured for Kenwood and COM2. TRX-Manager's Synchro A tab is configured for Kenwood and COM3. COM2 and COM3 are connected using a null-modem cable. Now TRX-Manager is under the control of your logging program like if it is a Kenwood transceiver...

Depending on the program you use (and how it polls TRX-Manager and the flow of data exchanged), connecting two serial ports on the same computer may be critical and can slow down TRX-Manager.

Kenwood mode

This mode should be always selected to synchronize a **logging software**.

If you select Kenwood as protocol under Synchro A or enable any of the 6 available com ports under Synchro B, TRX-Manager behaves like a basic Kenwood transceiver (TS-440 **TS-450** or similar) for the defined serial port. A **null-modem** connection must be used to connect the controller (i.e an other computer running a logging program or any device such as amplifier, antenna tuner...).

Supported settings are:

- Speed 4800 Bds, StopBits = 2, Parity None, Protocol = None
- Speed 9600-57600Bds, StopBits = 1, Parity None, Protocol = None

Recommended setup for the third party software is **TS-450**.

TRX-Manager automatically notifies its status changes using the IF string. IF, FA, FB, FR, FT, FN, SP, MD, SM, ID commands issued by the controller are processed.

ICOM & ICPW1 mode

It is best to select this mode to synchronize an external **ICOM compatible device**. If you synchronize an ICOM IC-PW1 linear amplifier, it is recommended to select **ICPW1** .

TRX-Manager behaves like a basic ICOM transceiver (IC-725 IC-726 or similar) for the defined serial port. A **null-modem** cable must be used to connect a computer (i.e to synchronize a logging program...) while a normal cable must be used to synchronize an ICOM compatible device (Transceiver, Amplifier...) at a TTL level through a CT17 (or compatible) interface.

Supported settings are: Speed 4800-57600 Bds, StopBits = 1 or 2, Parity None, Protocol = None. Transceiver's address and controller's address (generally E0 or 00) must be specified.

TRX-Manager only notifies mode and frequency changes (It only supports mode, frequency and VFO changes). If you need more advanced features, please use the Kenwood protocol.

ACOM600S

Please see ACOM Amplifiers

K3 mode (synchro with NaP3)

If you select K3, TRX-Manager behaves like an Elecraft K3 transceiver on its Synchro port. This selection should be only used to synchronise PowerSDF-IF Stage or NAp3 and TRX-Manager (LP-Bridge not required in that case).

> ***Note***
>
> *TRX-Manager's K3 synchro mode does not behave 100% like a K3 (useful commands but not all are supported) and it is NOT a bridge either, however, it is running much faster than a bridge since it does not poll the transceiver and uses internal data.*
>
> ***It is NOT recommended you use this protocol to synchronize a logging software** but only to synchronize Power-SDF or NAp3. Indeed some commands sent by a logging sofware which are not supported by TRX-Manager may cause a lockup or a malfunction.*

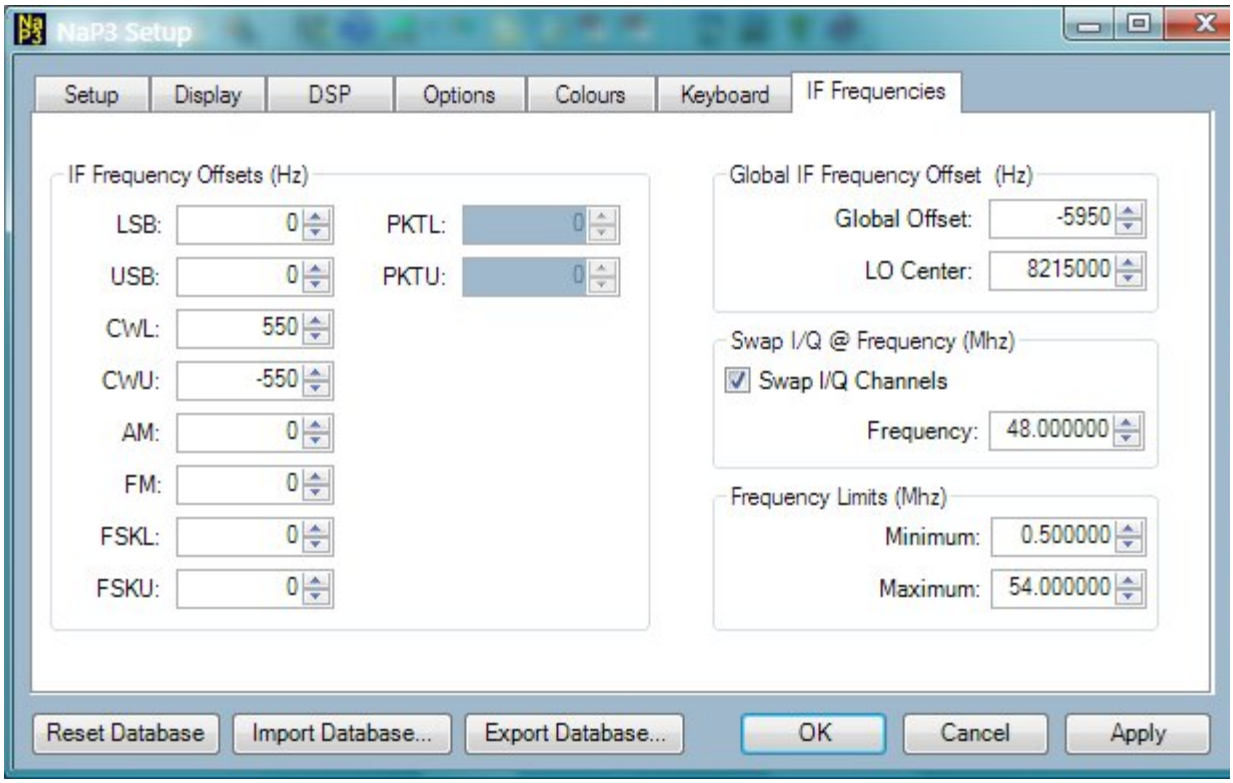
Supported settings are:

- Speed 4800 Bds, StopBits = 2, Parity None, Protocol = None
- Speed 9600-57600Bds, StopBits = 1, Parity None, Protocol = None
- Basic format but FI command (Get) supported

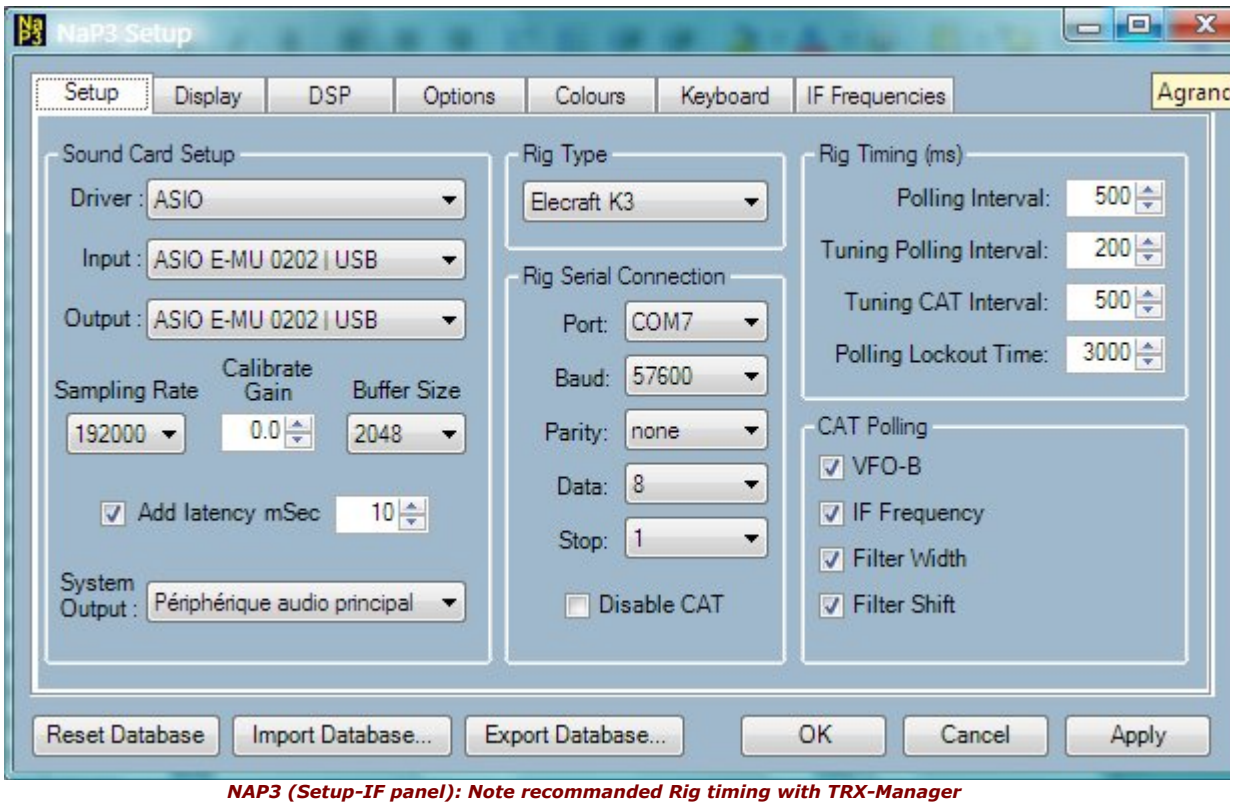
Example :

You control a K3 with TRX-Manager from COM1 (38400 bds).
TRX-Manager's Synchro tab is configured for K3 and COM3 (57600 bds).
NAP3 is configured for Setup = Elecraft K3, COM7 (57600 N 8 1), Poll:IF and Poll:VFOB checked.
COM3 and COM8 are connected using a null-modem cable or VSPE. Now TRX-Manager and NAP3 are synchronized...

TRX-Manager (Synchro tab)



With NAP3 + K3, All SSB Offsets = Zero
With [NAP3+TRX-Manager], offsets for CW and DATA modes have to be set (here CW = 550Hz) !
Global Offset = ~-6000 (to be determined).



NAP3 (Setup-IF panel): Note recommanded Rig timing with TRX-Manager

High Precision S-Meter

A high precision S-Meter is installed with TRX-Manager. It is a separate application (**\TRX-Meter\ TRX-Meter.exe**) running with TRX-Manager via OLE.

Features

The TRX-Meter program makes it possible to calibrate a digital S-Meter very precisely; to do so will be require a RF generator. If you don't have a generator, it is still possible to calibrate this S-Meter so that it reproduces the same indications as the transceiver.

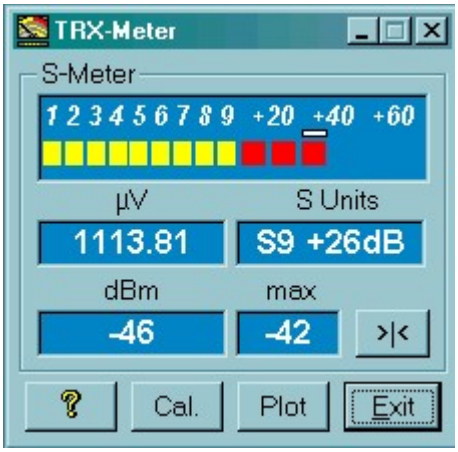
This program also makes it possible to plot directive patterns of antennas; automatic remote control of the rotor is supported (from V2.4.5 of TRX-Manager).

It should be noted that the calibration described here does not have any effect on the main S-Meter of TRX-Manager which may be calibrated (basically) from the **Preferences** dialog box, under **Transceiver** by simply moving a slider.

Running TRX-Meter

Please run TRX-Manager with **OLE** enabled (Setup) and run **TRX-Meter.exe**. The main purpose of this application is to perform measurements, it is preferable to close all the windows inside TRX-Manager but keeping it maximized : please note that TRX-Manager when minimized does not communicate with your transceiver !

The TRX-Meter's window displays the signal strength in **S Units**, **µV** (*) and **dBm**. The max value of the signal is displayed in dBm and can be reset by pressing **>|<**.



(*)50 µV = S9 below 30MHz, 5µV = S9 above 30MHz (See Table)

Calibrating

From **TRX-Manager**, the s-meter calibration slider (Preferences, Transceiver tab) must be fixed and not changed. The values read by TRX-Meter are affected by this correction.

From **TRX-Meter** press the **CAL.** button. Calibration must be done for each S unit (from **S1** to **S9** and **+10** to **+60**). For each button, set your RF generator according to the corresponding signal strength (value is indicated in µV), then press the button to poll your transceiver; the program is calculating an adjustment factor which will be applied to the read values.

You have to perform this calibration for each button; when you press **OK**, the program saves all the calculated factors as default values.

Please note that for a given transceiver, adjustment factors may be different according to the band, the pre-amplifier etc... It is useful to save these factors in separate calibration files (**.cal** as extension).

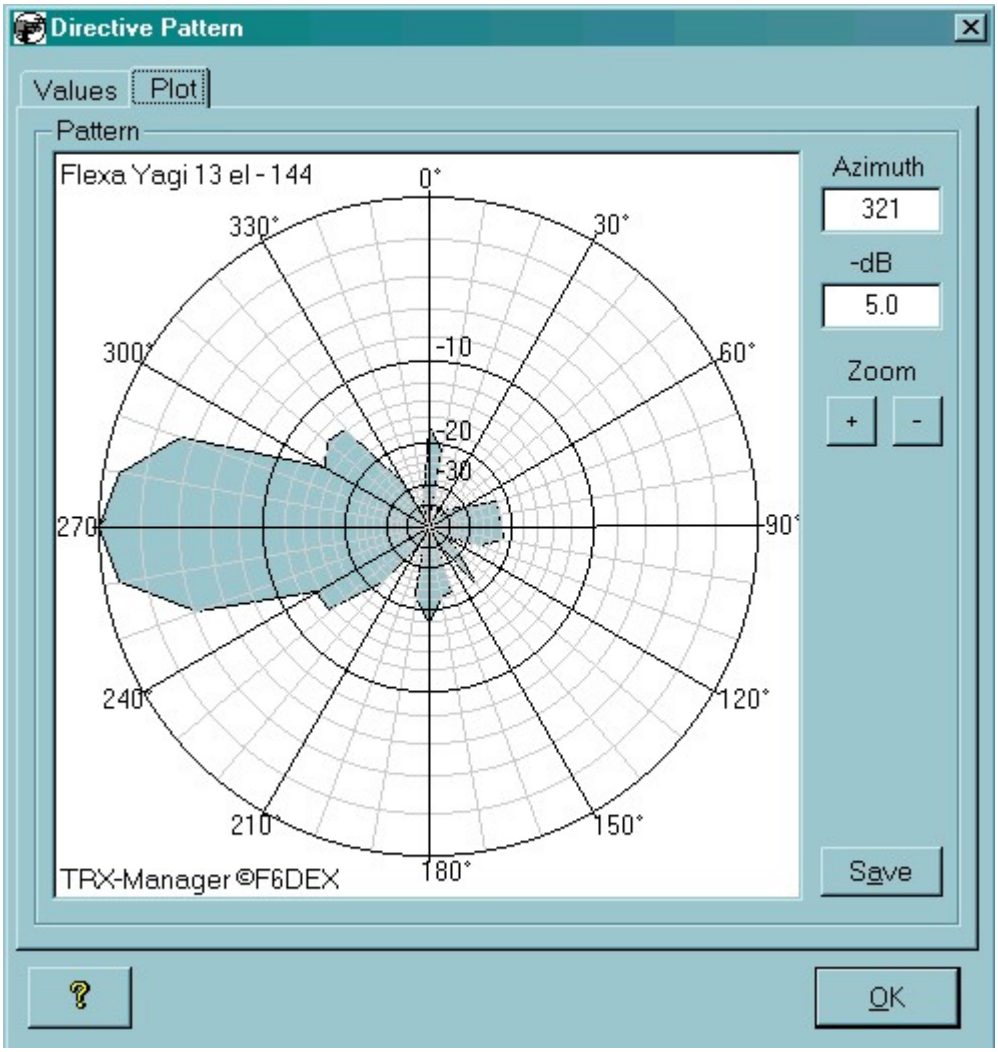
Directive patterns

From **TRX-Meter**, press **Plot**. The directive pattern of an antenna is drawn from different measurements of the signal strength done by step of 10 ° in azimuth. For each azimuth, set your rotator very precisely and press the corresponding button to make a measurement.

If your rotator is under the control of TRX-Manager, this process may be fully automated: press the **Rotor** button in order to control your rotator and press **Auto** to automate the measurements. After each rotation of the rotor, the program waits the specified delay and performs the measurement. The program does a full clockwise rotation (360 °) from any azimuth, it is important to set the rotator fully counterclockwise before beginning the process.

It should be noted that, because of inaccuracy of the remote control of the rotator, manual control gives more precise plots.

The measurements may be saved as ASCII files (**.plo** as extension) ; the directive patterns may be saved on **BMP** files.



This application has been written to the request and with the assistance of **Funkamateur Magazine** (**Werner DL2RD**).

Linear amplifiers

Linear amplifiers - Overview

TRX-Manager makes the use of linear amplifiers easier by providing various functions to automate real-time operation.

Related Topics

- ACOM2000A ACOM600S control
- Alpha 87A control (TRX-Synchro)
- Manual amplifiers (Linear-reminder)
- Synchronization

Warning

If you encounter RFI (Radio Frequency Interference) on your computer, it can lock up while your transceiver is keying. Consequently, please always watch your transceiver's status and make sure you can stop keying manually in all situations.

Synchronization for band changes

If your amplifier provides a data input RS-232 ICOM or Kenwood compatible like the most recent solid state amplifiers (Tokyo HP, Expert 1K-FA, IC-PW1...), you may configure TRX-Manager as a Kenwood or ICOM/ICPW1 serial server and automatically control band changes: see Synchronization.

The Band decoder can also be used to make band changes from the 8 pins of a parallel port (i.e by using the Yaesu BCD format).

Linear Reminder, OPR/STBY control, support for digital wattmeters

The Linear Reminder module can be used to display Preset Tuning Settings of a manual linear amplifier or with a LP-100 & LP-100A or ALPHAPOWER (4500) or Elecraft W2 Digital wattmeter adding various additional functions. The Linear Reminder also provides a **Standby/Operate** function which may help to prevent from transmitting with the linear on certain prohibited segments or just after band changes or by drive power.

Automatic Drive power control

If your transceiver supports setting of Power output via CAT, you can use this feature to automatically adjust the **Drive power** to the required values for the different bands.

Power output values by bands are set from the **Preferences/Transceiver/Rotor...** The Auto-Parameter check box must be checked. If power is left blank, no power control is done.

Linear reminder

Linear-Reminder - Operation

Even if you don't own an automatic - CAT controlled - linear amplifier, this little module can be very useful to help you using your manual amplifier (or your manual antenna tuner). The Linear Reminder provides the following functions:

- **Alarm** for **band changes** and **cross-mode**
- Display of preset values for **Tune Load** + 2 user defined fields (**USR1 USR2**) for about 260 segments between 1.8MHz to 55MHz
- **Tune** function : full power, reduced power, temporization
- Automatic **Linear relay control** (or state of transmitter) by **Segments** or **Drive power**
- Support for Telepost Inc. LP-100 & LP-100A ALPHAPOWER (4500)ELECRAFT W2 **Digital Wattmeters**
- **Gain calculation** and Assisted Tune (for Experts).

The Linear-Reminder only supports the Main transceiver; however, all options are memorized for each transceiver (TRX1..4).
The linear reminder does NOT support a Remote and OLE wattmeters.

The Linear-Reminder module opens from the **Tools/Linear-Reminder** submenu .

Warning

This module provides a timed Tune function. But in case you encounter RFI (Radio Frequency Interference) on your computer, it can lock up while your transceiver is keying. Consequently, please always watch your transceiver's status and make sure you can stop keying manually in all situations.

See also

- Overview
- Settings
- Assisted Tune

Functions

- **AUTO** : Set **ON/OFF Alarm** and automatic Relay Control after Band-Segment changes (Cross-Band Alarm remains ON whatever the state of Auto but OPR/SBY control is not activated if Auto is OFF)
- **OPR**: State (OPR/SBY) of Linear Amplifier or Transmitter (see below and Options), if supported
- **Tune F.** : **Full Power** Tune (power by default, see Options)
- **Tune >** : **Reduced Power** Tune (as set up from the **Power slider**)
- **OK** : Tuned (OK Button) = > set OFF Alarm
- : Options and Settings

Linear-Reminder (left=RX, right=TX with LP100)

OPR (Standby/Operate)

The Linear Reminder provides a **Standby/Operate** function (**OPR**). This function requires a Relay inserted in the PTT line between the transceiver and the linear amplifier (to be controlled itself using the LPT port) or a recent Kenwood transceiver which allows controlling the state of the amplifier relay using a dedicated CAT function.

Automatic control of **OPR/SBY** is provided to prevent from transmitting with a linear amplifier on certain prohibited segments or just after band changes (forces standby after a band change) or even above a critical drive power. **OPR** controls and/or visualizes the state (Operate/Standby) of this function.

Note : If control of the linear is not possible, control of **Vox** or **RF Power** is also provided to prevent from transmitting on prohibited segments or after band changes.

Please see Options for more information.

Operation

Preset values for **TUNE** and **LOAD** capacitors (and eventually USR1 and USR2 if defined) are displayed for each segment according to your **Options** making tuning your linear easier and faster.

If **Auto** is **activated**, the Linear-Reminder warns you as soon as a band change happens or a cross-band condition is detected. If you use the OPR/SBY control function (see above and Options), your amplifier or your transmitter is disabled (= StandBy) while OK is not clicked.

Alarm !

When an alarm happens, please press **OK** to turn off alarm and re-activate the transmitter or the amplifier.

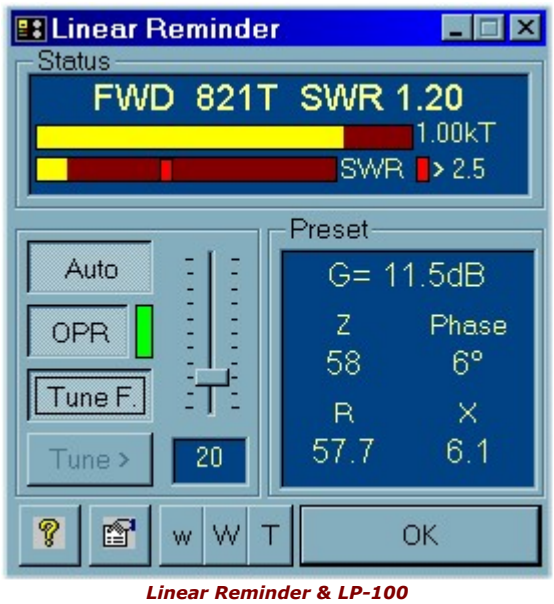
If **Auto** is **NOT activated**, only Cross-band conditions will be displayed as an alarm. However, in that case TRX-Manager does not perform any action on the relay or the transmitter.

When a Cross-Band alarm prompts, you can turn off **Split** to turn off the Alarm (or OPR if cross-band is needed).

Tune F. and **Tune >**provides a quick, timed tuning using full or reduced output power (according to your Options).

Digital Wattmeters

If a digital wattmeter LP-100 or LP-100A or ALPHAPOWER (4500) or Elecraft W2 is connected on your computer (to set up from **SETUP/TRX1** tab), the linear reminder displays direct power (**FWD**) and **SWR** during the transmission. Maximal "wattage" during the last transmission stays displayed during RX.



Linear Reminder & LP-100

LP-100

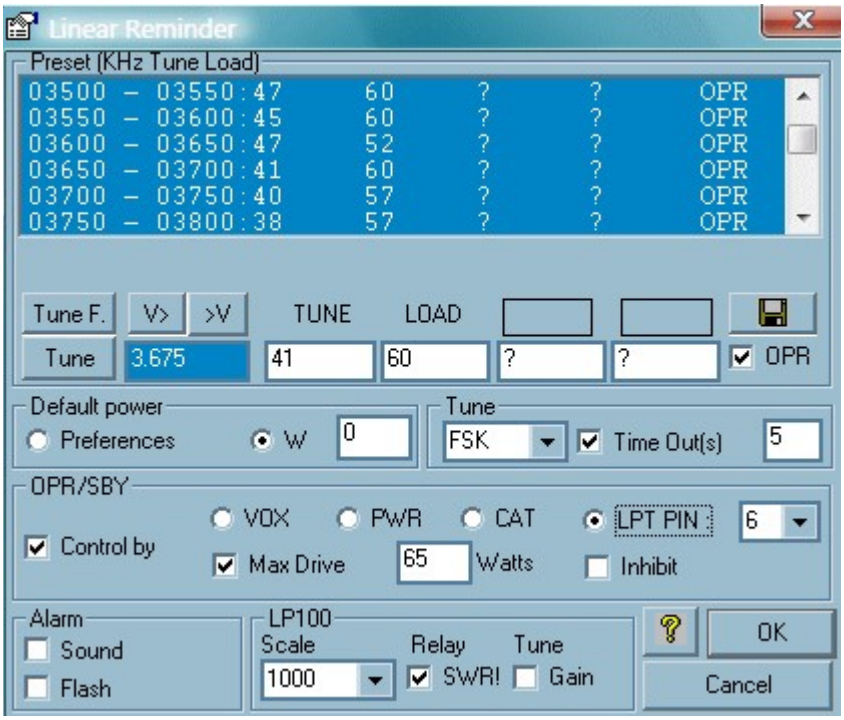
w W T buttons allows fast changes of the measurement mode (see LP-100's manual). It is possible to scroll **Alarm Set Point**values by double clicking the displayed value (<nnn). Depending of your Options for **PTT SWR!**, an SWR alarm stops the transmission (**ONLY** if you key down TX **via CAT**) and switches to STANDBY (see **OPR/SBY** function). However, please note the LP-100's PTT loop is ALWAYS faster than your computer.

ALPHA, W2

At startup, Alarm set point is fixed to 3.0. It is possible to scroll **Alarm Set Point**values by double clicking the displayed value (<nnn). Depending of your Options for **PTT SWR!** a n SWR alarm stops the transmission (**ONLY** if you key down TX **via CAT**) and switches to STANDBY (see OPR/SBY function). **RESET** resets Autorange to 5W.

Linear-Reminder - Settings

The Linear Reminder module allows numerous settings and configurations. From the Linear Reminder window, click to open the Linear-Reminder's settings dialog.



Settings dialog

Preset values

- **TUNE, LOAD, USR1, USR2** preset values for each segment: please select a segment by clicking it in the list and edit it by filling in the corresponding text boxes with appropriate values. **OPR** check box activates (or not) the relay for the selected segment. Press to save the values.
- **USR1** and **USR2** labels may be modified by clicking in the corresponding labels. If you left USR1 or USR2 blank, corresponding preset values will not be displayed from Linear-Reminder.
- **V>** button reads the transceiver's frequency: the corresponding segment will be automatically selected and highlighted while you are changing frequency of your transceiver.
- **>V** button transfers the middle frequency of the selected segment to your transceiver.
- **Tune F**. and **Tune** tunes at full power or reduced power (depending on your options).

Tip

Thanks to the **V** and **Tune buttons** you can edit the whole spectrum and test your values while you keep the Settings dialog opened (don't forget to cool down your amplifier after a Tune!).

Default power

This frame define the default power for **TUNE F**

- Preference: according to your options defined from the **Preferences** /Transceiver/Rotator...
- Or any preset value of your choice (in **W**). If the preset value = 0W, the program uses the current power as default.

Tune mode

This frame defines the way you

- Tuning Mode (Tuning **Mode** (**FSK** is recommended),
- **Temporization** for Tune in seconds.

OPR/SBY

If **Control** (Control by) is activated, the Linear Reminder provides a **Standby/Operate** function which may help to prevent from transmitting with the linear on prohibited segments or just after band changes or above a critical drive power. Since TRX-Manager does not control your linear amplifier directly, control is provided either using a CAT function of the transceiver or a relay inserted in the PTT line (between the transceiver and the linear amplifier); this relay beeing itself controlled via a dedicated PIN of the parallel port defined under the band decoder settings (Setup).

You can choose Control by:

- **CAT** : This is the recommended option for TS-480/570/870/2000 transceivers. The CAT function controls the state of Pin 3 of the Remote port (LINEAR AMP function).
- **LPT**: In that case, the Band Decoder must be defined in Setup for a parallel port and properly wired. You must indicate which PIN (2-9) of the parallel port you are using to control the relay (you select a pin not used by the band decoder itself: in the BCD codes of the band decoder you must indicate - for this pin instead of 0 or 1). By default the selected pin goes to a HIGH state while OPR is ON (**Inhibit** NOT checked) ; if Inhibit is checked, the pin goes to a HIGH state to force SBY. Example (see image above): Pin 6 of the LPT port (Band Decoder) is used to control the relay. High state = OPR, Low state = SBY. TRX-Manager forces SBY above 65W.

If control of the linear amplifier is not possible via CAT or LPT, TRX-Manager provides two selections which may help to prevent from transmitting on prohibited segments (or just after band changes) either by using **VOX** (On/Off) or by setting up **RF Power** (Full/Minimum). You can choose:

- **PWR** : Power is set up according to the desired state of the transmitter: OPR>power by default (according to Preferences), SBY>minimum power (0-5 W). This is the recommended way if control using a relay is not possible (provided RF Power control is possible via CAT),
- **VOX/TEST** : VOX (or TEST on K3) is set up according to the desired state of the transmitter. This is the way to go if all other options are not possible but VOX control is possible via CAT.

Notes

- *Computers and RS232 communications are not perfectly reliable ; some situations may be unexpected. This function does not exempt you from checking the state of your station,*
- *VOX or PWR may be not effective on several transceivers depending on supported CAT functions. Minimum power is rarely 0W but more often about 5W or more. VOX control is not 100% reliable.*

Alarm

You may select the way an alarm prompts while **flashing** and/or the Windows critical **sound**.

Digital Wattmeter

Available options for using a digital wattmeter from the Linear-Reminder module are:

- **Scale** of the wattmeter,
- **PTT SWR!** Alarm: Keys up the transmitter and/or opens the relay inserted in the PTT line if a high SWR is detected (higher that **Alarm Set Point** value),
- **Tune Gain**: measures the gain of your amplifier. (see Assisted Tune, for Experts). Please let this option **NOT** checked if you don't use assisted tune.

Don'forget to set up your Wattameter from Setup/TRX1 tab (WattMeter frame)

*From Setup/TRX1 tab, you set up the wattmeter: **LP-100 LP-100A ALPHA (ALPHAPOWER 4500) ELECRAFT-W2** and the corresponding com port. If you select **OLE** as WattMeter, you may use the OLE link with the programs distributed by Telepost Inc.*

Linear-Reminder - Assisted Tune

The Linear-Reminder module measures the Gain of your amplifier and offers a computer assisted tuning method. This last function mimics the alternative tuning method offered by some high-end linear amplifiers generally called **Nominal Gain** tuning method. It is, however, absolutely necessary to understand the principle before using it safety and with efficiency.

These functions are only available if :

- A digital wattmeter is set up (from **Setup/TRX1**) by using a serial port (OLE and Remote not supported),
- Your transceiver allows **keying up/down (PTT) via CAT** control,
- The Monitoring window is open.

The following requirements are recommended but not mandatory:

- **Control of the Drive power by computer**: if your transceiver does not support setting of output power by computer, please take care to NOT change the power output between sessions or measurements,
- **Operate/Standby control**by using a relay inserted in the PTT Line: if you don't use this function (see Overview), you will have to indicate the state of your amplifier by clicking the OPR button according to the current state of the amplifier.

Settings

You must check the **TUNE GAIN** option from the Linear-Reminder's Settings dialog (LP-100 frame). However, if you don't use the functions below, it is recommended you do NOT check this option.

Gain measurement

It is necessary to proceed as follow:

1) Memorizing the Drive power

The Drive power (without amplifier in line) has to be memorized for each Segment and each Tune button:

1. Disable **OPR** which opens the relay inserted in the PTT line (your amplifier is not in line),
2. Perform a Tune at reduced power (**Tune>**) **WITHOUT** amplifier (or **Tune F.** if Tune> is NOT available),
3. The program switches LP-100 to Tune mode (**T**),
4. Thanks to the digital wattmeter, the program measures the Drive power,
5. Make sure the program stops the transmission automatically as soon as the measurement is done (or stop the Tune manually),
6. The program switches LP-100 back to Peak mode (**W**).

Measuring Drive power

Please **REPEAT** the same operation while using **Tune F.** (Drive full power **WITHOUT** amplifier).

Then, gradually, as you are Tuning and making gain measurements for the different segments, TRX-Manager will memorize the Drive Power output for each Transceiver (1-4); consequently, it is not necessary to repeat this operation each time you

Tune as far as other parameters, for a given segment, remain unchanged (especially antennas and of course Drive power itself - see note b).

2) Determining the Gain

- press **OPR** to engage the amplifier (see note a),
- Tune from the Linear Reminder (while using Tune> or Tune F.) **WITH** amplifier running,
- **Gain** is displayed in **dB**
- Stop tuning

Gain measurement

The measured gain may be slightly lower than the real gain (0.2-0.5dB) since the wattmeter is inserted behind the amplifier. Also, if your antenna is not 1:1 SWR and while the amplifier is not running, your transceiver's protection circuit may slightly reduce its output power.

If you control the Transceiver's output power control by computer, TRX-Manager checks that all parameters stay unchanged. If TRX-Manager detects any change, it displays **DRV?** (in red) to indicate that it needs a new measure of the drive power.

Drive power value lost!

Notes

(a) If you don't have Relay control by TRX-Manager, please set up your amplifier to Standby/Operate manually and press OPR to indicate TRX-Manager in which configuration you are running your amplifier.

(b) If you don't have control of Drive power by TRX-Manager, it is probable you will have to repeat this sequence each time you Tune. In that case, this function is of no great interest...

Linear computer assisted Tune

A properly tuned linear amplifier has a constant power gain regardless of the antenna impedance. A Tuning method which optimizes Gain is generally more precise than the usually used plate "dip" (which is nearly unusable with tetrodes and pentodes) or just maximum output etc. Such method is offered by some high-end amplifiers (Nominal gain alternative method).

This method consists of tuning your amplifier for a **NOMINAL** gain by using the **LOAD** capacitor while you adjust the **TUNE** capacitor for the maximum output. The NOMINAL gain is a specification which has to be known before you start tuning. In fact even if you don't use this method, reading the gain while you are tuning is a very fast way to know if your amplifier is properly tuned.

It is possible to proceed as follow:

1. **MANDATORY**: knowing the **NOMINAL** gain of your amplifier for each band at 0.5dB (or better 0.2dB). You may obtain the nominal gain by reading the specifications of the manufacturer and confirming by a classic method of tuning (taking into account that measured gain is always slightly lower than real gain),
2. Perform a gain measurement as indicated above **(1)**
3. Preset amplifier with preset Tune and Load values,
4. Tune at reduced power (**Tune >**) **WITH** amplifier in line,
5. Adjust **TUNE** capacitor for **maximum** output,
6. Adjust **LOAD** capacitor for the **nominal** Gain (i.e: 11dB),
7. Adjust **TUNE** again for **maximum** output power
8. **Stop** Tuning
9. **Repeat** the same operation at **full power**.

The final criteria for a good adjustment is: when peaking TUNE gives you a maximum at the recommended NOMINAL value for Gain.

> **Warning**
>
> It is important you do not try to maximize Gain which can only result in a signal of poor quality and may damage your amplifier. The objective of this alternative Tune-UP procedure is to reach optimum efficiency while tuning your amplifier for its NOMINAL gain. This ensures transmission of perfect quality.

Acom linears

TRX-Manager controls the ACOM 2000 and ACOM 600S amplifiers manufactured by ACOM.

ACOM 600S

Support of the ACOM 600S is integrated to TRX-Manager.

Setup

You have to set up TRX-Manager from the Setup dialog under the **SYNCHRO-A** tab. You have to select ACOm600S, Speed (9600bds by default) and com port. Once configured and restarted, TRX-Manager automatically synchronizes the band switch of the amplifier with your transceiver.

Operation

The **ACOM 600S** module (**External** menu) provides additional functions and displays the more critical parameters.

POWER ON function requires a cable wired for DTR and RTS. You will also need an adapter: please contact ACOM for details and availability.

This window opens outside the main screen; you can press the **TOP** button to keep it on screen.

Remote mode

You can send the following macro commands to the amplifier through the TRX-Manager's remote control mode

- *LI0: Linear OFF
- *LI1: Linear ON
- *LI2: Linear OPER
- *LI3: Linear STAND BY

ACOM 2000

The ACOM2000A automatic amplifier is controlled using the TRX-Acom software. TRX-Acom.exe is distributed with TRX-Manager; it may be executed as a stand alone program but installation of TRX-Manager is required.

TRX-Acom is usable through the Internet using a serial port server. However, Auto-Tune function may give undesirable behavior if speed of your connection is too low. Also the **ON** function may be difficult to support.

> **Warning**
>
> While this program has been carefully tested by Stan LZ1IU ACOM's developer, please consider this tool as an help to use your amplifier from a computer and **NOT as a replacement for the RCU**. Depending on state of your amplifier, data history, changes and quality of the communication, information displayed may be wrong and commands not properly processed.

Please launch **TRX-Acom.exe** located in TRX-Manager's main folder (or from Start menu). Click **Setup** to choose com port and press **Connect** to connect your amplifier.

ON function requires a cable wired for DTR and RTS. You will also need an adapter, inserted in the RCU-AMP and PC_AMP connections on the rear panel of the amplifier: please contact ACOM for details and availability.

> ***Note***
>
> *Status of the RCU displayed by TRX-Acom may be wrong if you connect your amplifier while it is already ON:* ***it is recommended you first connect your amplifier and then switch it ON while it is connected to TRX-Acom****.*

TRX-Acom

TOP button keeps TRX-Acom always on top of all other windows.

TRACK button connects TRX-Manager and TRX-Acom together via OLE. Once TRACK is ON, internal ACOM2000A's frequency counter is overcome, all frequency changes are controlled by TRX-Acom and selected segments are displayed.

> ***Note about RCU's PROT Led***
>
> *When an error happens, the amplifiers goes to StandBy. If you press **Esc** on RCU, error message will be cancelled and RCU's PROT Led will stop flashing. However, if you cancel the error message from TRX-Acom by pressing **OPR**, RCU'S PROT Led will continue flashing while TRX-ACOM's PROT Led will stop flashing. This is **normal** since the RCU's PROT Led is a kind of "reminder for the local operator", if any at the RCU side, about a problem that has happened during the remote control operation.*

Measurements

Press **SET** to select DATA to measure. Press **START** to start measurements.

> ***Note***
>
> *While in Measurement mode, TRX-Acom stops reading the RCU. Press **STOP** to resume RCU reading.*

Auto-Tune

TRX-Acom uses ACOM2000A's **AUTO-TUNE** function under the control of TRX-Manager. AUTO-TUNE panel opens by clicking the **>>>** button.

- if you use TRX-Acom as a stand alone program (not using TRX-Manager), leave **TUNE via CAT** unchecked,
- if your transceiver allows switching PTT ON/OFF via TRX-Manager, please check **PTT VIA CAT**
- if your transceiver supports setting up RF Power via TRX-Manager, please check **POWER VIA CAT** and preset required **RF Power** values in **Watts** (*) for **TUNE** and **NORMAL**: 10-20W of input drive power are recommended by ACOM,
- select **Tuning Mode** (**FSK** is preferable).

(*) CAT values in Watts for POWER are indicative values only, not always very accurate (especially with ICOM transceivers) and may require adjustments.

You start AUTO-TUNE by pressing **START** and you follow instructions on screen. If your transceiver does not support RX/TX and/or RF Power via CAT, you are prompted to do changes and settings manually. During the **Analysing** step, you can press **OK** if you estimate Drive power properly adjusted: Then, TRX-Acom skips this step and immediately starts tuning.

TRX-Acom follows ACOM's recommendations with an adjustment of RF Power up to display 7 FWD Leds ON (2) before starting Tuning. Once a good Tune is found, it is memorized automatically and your Transceiver comes back to the initial frequency and mode.

If any problem or abnormal behaviour happens during the procedure, press **STOP**.

Watch dog

If **Watch Dog** is checked in Setup and no command sent to the amplifier during the sepecified **delay**, TRX-Acom will switch to **Stand By** .

ACOM Antenna Selector

If you use the ACOM Antenna selector, please check **Antenna Switch** in Setup ; if you don't use it, it is preferable to let this option unchecked since it adds useless control commands between amplifier and computer.

ACOM antenna switch is fully supported either using the TRX-Acom's antenna table (if enabled in Setup) or amplifier's memorized antenna positions. Other available options (with antenna table checked) are:

- **TX freq** (default). If checked the TX Frequency defines the current segment
- **Hysteresis** 25kHz (Default) from the edge of each segment to prevent from undesirable antenna changes
- **Remember changes by HAM BAND**. By default, TRX-Acom memorises an antenna change for the corresponding segment and during a same session. If this option is enabled, the memorization of an antenne change (from buttons 1-10) applies for the whole HAM Band.

Remote Control

Remote control overview

TRX-Manager lets you operate any transceiver by remote control through a LAN (through a local area network or the Internet) and even via Packet. TRX-Manager also offers remote operation of rotators and CW keyer.

Although many software solutions or alternatives exist to control a remote computer (including the TRX-Manager's Web Server), the **standard TRX-Manager's remote control** mode minimizes the information being passed on the network and thus, gives faster real-time control - with minimal latency - which a DX operation requires, with very low bandwidth requirements (even practicable via Packet at 1200 Bauds !).

This standard mode of remote control (described below and called **standard remote control mode**) works with any transceiver BUT features a generic user interface, the same for all transceivers. However, many functions are supported and macros can be defined for particular needs.

An enhanced mode (called Real-Mode) allows using your transceiver remotely - with TRX-Manager - almost exactly as if you are controlling the transceiver locally (supports opening of the Transceiver/Levels window...). However, it requires a fast network, it is not available with all transceivers and controlling one transceiver with two software simultaneously may be somewhat disconcerting. This is why, this mode requires a good experience of the standard mode and understanding of how TRX-Manager works: so please DO NOT START configuring TRX-Manager in real-mode first...

Standard control requires you consult:

- Remote control settings
- Operation
- Transmission of Audio
- Syntax of commands

See also

- Alternatives to remote control
- Real remote control mode
- Web Server

Requirements

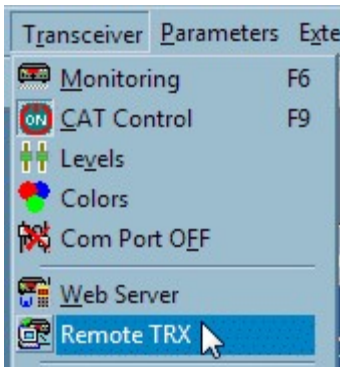
You must have at least:

- a transceiver and its interface,
- a local network or a good access to the Internet (or two stations equipped with VHF TNC for a control via packet)
- two computers with TRX-Manager installed and running,
- a voice link (VHF, Phone line, Skype...).

Principle of operation

TRX-Manager implements its own client/server interface and can exchange commands between both stations using Windows® networking capabilities. UDP and TCP protocols are supported. A strict syntax has been implemented, such as commands controlling a transceiver and are automatically generated by the program but may also be entered on the keyboard. The Packet connections must be processed through the Terminal.

The **Transceiver/Remote TRX**sub-menu opens the remote control window which allows setting up your network and controlling the remote station (Transceiver, Rotor, CW Keyboard, SteppIR) through a generic interface.



Limitations

TRX-Manager allows control of virtually all elements of your remote station, economically, without any other equipment than a second networked computer. It's a fun experience and quite effective in DXing.

That said, interactivity is necessarily limited compared to the use in local control mode. Supported features are less extensive and limited to the display of critical data and/or to the control of your remote equipment using a keyboard: transceiver, rotor, keyer...

There are also efficient other solutions such as: serial port servers, Remoterig... generally also compatible with TRX-Manager. Which method works the best depends on the transceiver that you are using, other elements of your station and the speed and reliability of your network.

Important

Generally, unless stated (of course and especially in the other sections of this help), all the functions of TRX-Manager described in the documentation apply to a local control mode and NOT to a remote control mode. The remote control mode is specific. All modules are not always usable in remote mode.

Remote control Settings

All settings are defined from the **Remote TRX** window (**Transceiver/Remote TRX** submenu)**.**

Warning

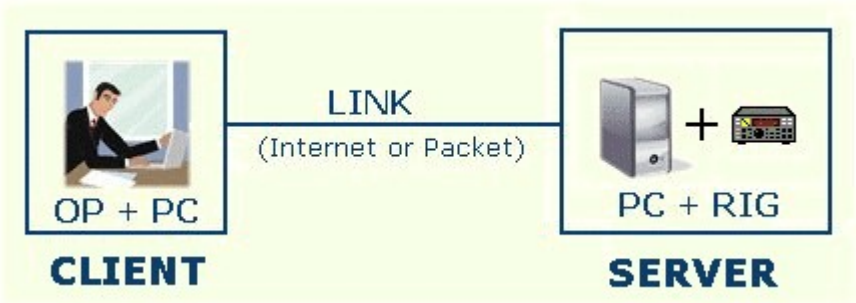
This section describes the specific settings required for remote control. It does not describe how to configure your local (real) station (choices for transceiver, cw interface, rotors...). Please do not attempt configuring TRX-Manager for remote control before your local station (called SERVER) is perfectly operational.

Tip

This section describes how to set up TRX-Manager for the **standard mode of control**. Once the standard mode is set up and working, you may eventually consider the real mode of control. But, please, do not attempt configuring TRX-Manager for the real mode before you are sure the standard mode is perfectly operational.

Conventions

You control the **SERVER** (or remote station) from the **CLIENT** (or base) station.



Please imagine you have to control a FT-1000 remotely + a CW Keyer, a rotator...

- **SERVER** will be the station equipped with a computer and a serial interface to control the FT-1000 Transceiver + a CW Keyer, a rotator...
- **CLIENT** will be the computer from which YOU control the remote station connected to SERVER through a Network or Packet.

Please note you can only control SERVER from CLIENT by using a computer (+ keyboard, mouse, joystick) ; no other interface or device or hardware is required or supported from CLIENT for remote control (CW Paddle excepted: see below and Remote Operation).

About IP adresses and configuration of Routers and Firewall

- *Through a local network you connect the **Local IP** address of the SERVER computer,*
- *Through the Internet, you connect the **External IP** address of the SERVER computer,*
- *IP addresses can be displayed by clicking the **MY IPs ?** button*
- ***UDP**: If your computers are connected to the Internet through a Router, you have to configure your Router to route all incoming packets to the corresponding computers on the specified (listening) Port of each computer*
- ***TCP** : Setting up the Router is only required on SERVER. An unique port is used.*
- *You SERVER computer is preferably configured with a **static IP** on your network. This way, your router is configured only once to route all packets to this computer for the listening ports (UDP and TCP).*
- *If you use a Firewall (either from SERVER or CLIENT), it must be set to not block TRX-Manager.*

Modes of transmission (SERVER <-> CLIENT)

Two modes of transmission are possible:

- **Internet/LAN :** You have to choose between **UDP** and **TCP** protocols

UDP or TCP ?

UDP has generally less latency but TCP is more reliable and easier to configure:

- *In **TCP** mode through a public network (Internet), the SERVER router must be configured to forward all packets received on the specified (unique) port to the target computer. This is ideal if you connect your remote station from various locations,*
- *In **UDP** mode through a public network, both SERVER and CLIENT's routers must be configured to forward all packets received on the specified (listening) port of each computer (CLIENT or SERVER).*

Of course, you must use the same protocol for SERVER and CLIENT.

- **Packet**: In that case, the Packet Terminal will be used for connecting the server; make sure to choose a clear packet frequency. Packet is now rarely used for remote control.

CONFIGURATION: STEP BY STEP

Setting up the remote station (SERVER)

1.1) Parameters/Setup panel

You have to set up the station according to the type of transceiver, rotator and CW Interface in use. Please re-start TRX-Manager and, please **make sure your station is fully functionnal as per your needs before setting up TRX-Manager for remote control!**

1.2) Remote TRX window (Setup tab)

- **SERVER** selected,
- **Protocol: Packet**, **UDP** or **TCP**
- **UPD**: a valid listening **port** (1001 is the default) for the SERVER and a valid listening port for the CLIENT (1002 is the default)
- **TCP**: a valid (and unique) port for the TCP connection (1001 is the default)
- **Packet**: see specific settings below

1.3) Optional settings

1. **Watch dog** : SERVER disconnects if no frame is received after the specified delay. This may be useful if your connection is lost and SERVER still connected ; this also resets the password usage for a new connection. It is mandatory you set up CLIENT with the same option and the same delay.
2. **Password** for connecting the SERVER computer
3. Check and set the **EMail** address for automatic notification of the **IP Address**. The IP Address of the SERVER station will be automatically sent after the specified **delay**. Please take care to properly configure the internal emailer of TRX-Manager (this option is only available with a registered version of the program).

1.4) Packet control only

- **Address** of the server station : 0 to 9 (the SERVER station must have an **address** so that several stations can be operated remotely on the same packet frequency)
- **Auto Information** : if checked the remote transceiver will notify and confirm to the client station each change of frequency, mode... and S-Meter readings
- To save resources on SERVER computer, please let **Traffic Display** unchecked (the Terminal will not display any data coming from the CLIENT station).
- **Terminal (TNC tab)**: set the function buttons #9 and #10 (**S1 S2**). The Terminal will be automatically launched and the corresponding S1 S2 messages will be sent to the TNC 5 seconds after startup. These messages may be useful for configuring your TNC or establishing the connection automatically (S1 S2 buttons only appear once the SERVEUR mode and REMOTE Control are activated)

Setting up the base station (CLIENT)

2.1) Setup panel

No setup is required under the Parameters/Setup dialog to run the standard mode of remote control if you are using the **Remote TRX** window (an Alternative Setup using the Monitoring for remote control is explained under Remote Control Operation).

2.1) Remote TRX window (Setup tab)

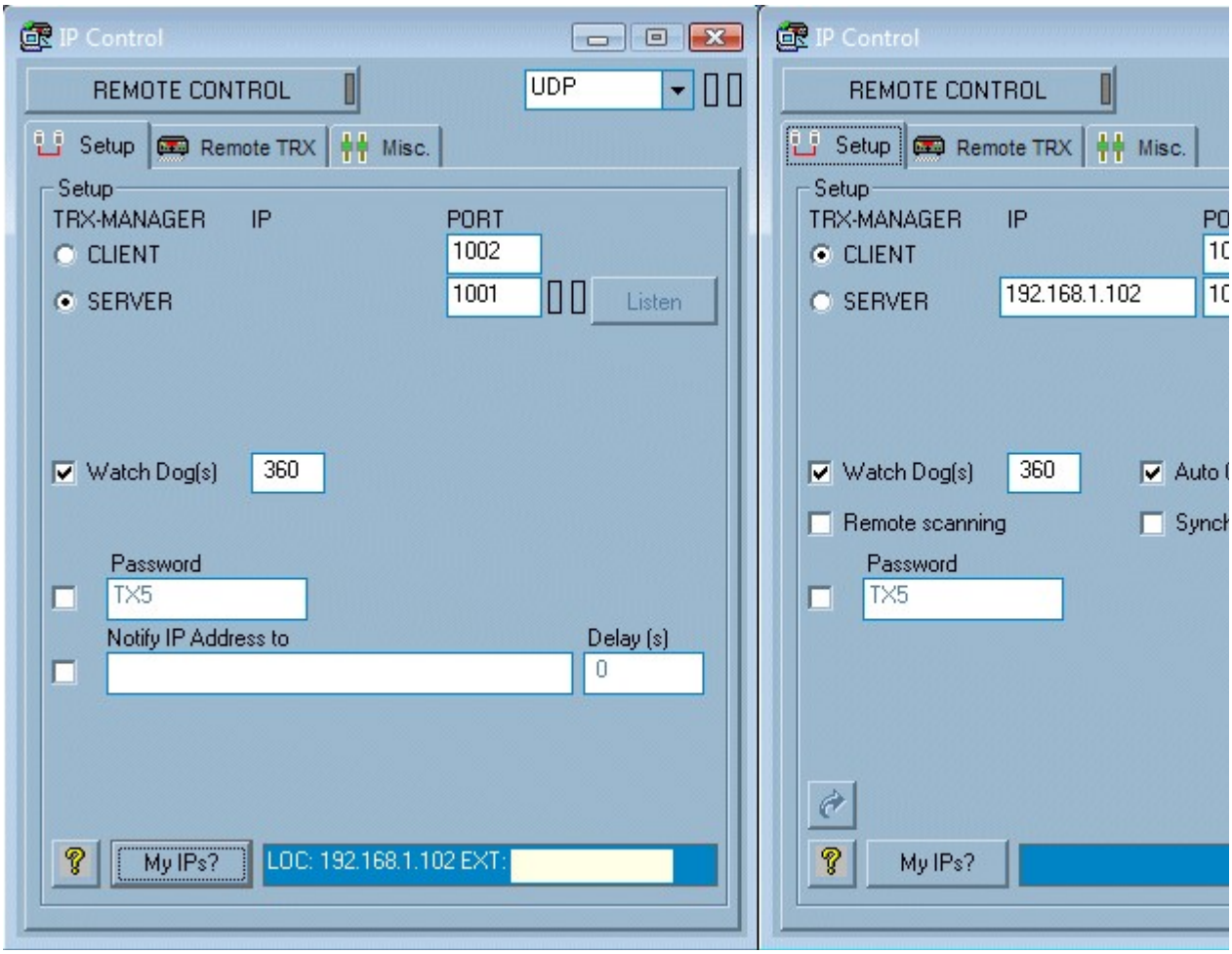
1. **CLIENT** selected
2. **Protocol:** Packet, UDP or TCP (same as the one defined from the SERVER computer)
3. **UPD:** a valid listening port (1001 is the default) for the SERVER and a valid listening port for the CLIENT (1002 is the default),
4. **TCP:** a valid (and unique) port for a TCP connection (1001 is the default)
5. **TCP or UDP** : IP address of the SERVER computer
6. **Packet:** see specific settings below

2.2) Optional settings

- **Auto connect :** if this option is **checked (recommended)**, connection is established and the password is sent as soon as you engage the Remote Control Mode. If this option is not checked, the connection is manual by using the terminal mode (debug mode only).
- **Watch dog** : CLIENT disconnects if no packet is received after the specified delay and sends a WD frame to maintain the connection ; it is mandatory you set up CLIENT with the same option and the same delay.
- **Password** for the connection to the SERVER computer
- **Remote scanning** (CLIENT) : if this option is checked, the Monitoring's Up/Down button engage a scanning controlled from the SERVER station. If your connection is fast enough, this provides a smooth scanning. If your connection is slow or unreliable, it is preferable you let this case unchecked.
- **Synchro**: If checked, the Remote transceiver activates the synchro ports defined from the CLIENT instance of TRX-Manager (SteppIR synchro excepted).

2.3) Packet only

- **Address of the server station:** 0 to 9
- **Flow control** (CLIENT/Packet): the flow control reduces the amount of commands sent during the specified **delay** (in seconds). This option is useful if your connection can not handle the data flow.



Typical setup for SERVER and CLIENT using UDP protocol

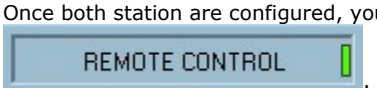
Summary of the main steps

1. *Configure TRX-Manager from the base station (SERVER) as if remote control is not used (remote control NOT enabled) and make sure all is working perfectly (locally: you must be physically present)*
2. *Install TRX-manager on the remote computer (CLIENT) and configure both instances of TRX-Manager (CLIENT and SERVER) for the standard mode of control* ***as described in THIS section of the help***
3. *Please keep the defaults settings for your first tests with NO password or Watchdog.*
4. *Make sure all is working and you are able to control remotely all elements of the station (with, of course, some limitations inherent to the remote control mode)*
5. *Eventually, consider configuring TRX-Manager for the real-mode .*

Please DO NOT SKIP none of these major steps and follow each step carefully.

STARTING THE REMOTE CONTROL

Once both station are configured, you engage **Remote Control** mode from SERVER and from CLIENT



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It is recommended you disable any screen saver or sleep mode on the SERVER computer. You may also use the STOP SAVER option of the TRX-Manager's Preference software tab.

TCP and UDP

From **Client**, you click the **Connect** button : remote control is established and the status of the remote transceiver is displayed under the remote control tab. As soon as you click the **OP** button of the Remote control window, the remote transceiver becomes the Operating transceiver and the CW Keyboard, the Rotor, the Logbook, the DX Bar window, the SW Database are linked to the Remote transceiver.

Some critical messages sent by SERVER are displayed in the small terminal and sending small messages to SERVER is possible. However, this capability is essentially written for debugging and should not be used during normal operation.

If the **auto connect** option is checked, the connection is established as soon as you engage the remote control mode from CLIENT (provided the SERVER is running and listening).

For more information, please see now Remote control operation.

PACKET

1. From the Client's Terminal (TNC tab) you connect the SERVER using your TNC.
2. Once the connexion is established you send the message **TRXi=PA;** (i= address of the Remote station 0-9) to initialize the remote control.
3. You can control the remote station from the Remote TRX window.

Notes

- *The Remote TRX window is automatically launched and the Remote Control mode enabled at startup if you exit TRX-Manager with Remote Control enabled (SERVER) and auto-connect checked (CLIENT).*
- *SERVER logs each IP connected under **\Misc\Remote.log (TCP/IP only)**,*
- *Communicating your IP address to anybody exposes you to malevolent intrusions.*

Warning

On the SERVER computer, if you do not use the remote control, please disable **Remote Control button** to avoid interfering with packet or Internet connections or problems with auto-mode and other various CAT control functions necessary limited in this mode.

TROUBLESHOOTING

1) You can not connect SERVER from Client

If you can not connect TRX-Manager via the Internet or your LAN, please check your **Firewall**: it must be configured so that TRX-Manager, your VoIP software and IP ports required for remote control are not blocked. Common errors are mismatched ports and wrong use of LOCAL and EXTERNAL (PUBLIC) IPs.

Public and local IP addresses may be a source of confusion:

- LOCAL IP adresses (generally those with 192.168.....) are used through a home/local/personal network ; configuring the firewall is required.
- PUBLIC or EXTERNAL IP adresses are used through the Internet and require you set up both your firewall and your router accordingly.

In **TCP** mode through a public network, the SERVER router must be configured to forward all packets received on the specified port to the target computer.
In **UDP** mode through a public network, both SERVER and CLIENT's routers must be configured to forward all packets received on the specified port to the target computer.

By clicking **MY Ips** (Remote TRX window) you can get your local (LOC) and your public (EXT) IPs. Your LOCAL IP may change each time you login your computer if it does not have a static IP in your network. Your Internet provider may change sometime your PUBLIC IP.

Unfortunately, some providers do not allow using UDP or TCP for remote connections or block some specific ports.

2) Communication stops

- Make sure Watch-Dog is enabled with the same settings on both computers
- Make sure your IPs have not changed
- If necessary press the **LISTEN** button to resume operation and reconnect

Remote control operation

The Remote interface of the **Remote TRX** window is simple to use and allows controlling most of the functions of the Remote station.

Summary of the main steps

1. *Configure TRX-Manager from the base station (SERVER) as if remote control is not used (remote control NOT enabled) and make sure all is working perfectly (locally: you must be physically present)*
2. *Install TRX-manager on the remote computer (CLIENT) and configure both instances of TRX-Manager (CLIENT and SERVER) for the standard mode of control* ***as described in THIS section of the help***
3. *Please keep the defaults settings for your first tests with NO password or Watchdog.*
4. *Make sure all is working and you are able to control remotely all elements of the station (with, of course, some limitations inherent to the remote control mode)*
5. *Eventually, consider configuring TRX-Manager for the real-mode .*

Remote control interface

Transceiver control

The remote control interface is generic to be able to work with all the different transceivers that TRX supports. The commands available being very different from one transceiver to another, please see your transceiver manual to check the availability of certain commands via Computer especially the ability to switch to TX via the serial port, VOX control...etc.

Additional macro buttons and sliders are provided to support specific commands for your particular transceiver (see also: Macro buttons).

- **Manual scanning** : Each digit of the display is clickable: a **left/right click** changes frequency (Up/down) by one digit while holding the left/right button scans.
- gets the current status of the remote transceiver (most important parameters) and updates the display. While SERVER acknowledges any command after it is processed, this button allows you quick checking and improves the reliability...

- **>|<**: A **Left click** synchronizes the remote station (SERVER) with the local transceiver (RX, TX & Split parameters). A **Right click** synchronizes the local transceiver with the remote (SERVER) transceiver (Mode & RX only).
- **Auto**: automates the synchronization (SERVER with CLIENT) for RX Freq, Mode & Filter
- **>RX >TX**: set an RX or TX frequency in MHz
- **TX**: Keys down (PTT)
- **RX**: Forces Receive mode
- **OP:** Set the Remote transceiver as the **Operating** transceiver for TRX-Manager (see also: definition of the Operating transceiver).
- **Filters**: Five selections (FIL0 to FIL4) are provided to select the predefined filters of the Remote transceiver. However, only 2 or 3 selections are usable for a given mode, depending of your transceiver (ex: SSB: FIL0-2 SSB, CW: FIL2-4...). This may be improved in next versions of TRX-Manager.
- **DSP:** the two DSP sliders of the Remote TRX window control the DSP sliders of the remote transceiver. The labels display the functions under control. By clicking the labels, you can center the controls.
- **VFO B**: provides direct manual scanning of VFO B; a compatible transceiver is required (recent Kenwood, recent Yaesu, Elecraft)

The Remote window supports drag and drop.

Logbook

Whatever the remote mode you are using, TRX-Manager always uses the CLIENT's Logbook. When you press OP, the CLIENT's Logbook populates the Remote frequency and mode. The SERVER's logbook is never used.

Rotator

The Remote interface controls the Remote Rotators. Rotator 1 or 2 are selected on SERVER depending on the Preferences of the SERVER station. You may enter either an **azimuth** or a **gridsquare** (4-6 digits). A gridsquare may be more accurate if the remote station is far from the CLIENT station (with a very different location).

- When you click DX-Spot on the CLIENT computer, the location of the DX station is calculated and sent to the corresponding text box of Remote interface. By clicking , coordinates are transferred - by GridSquare (4 digits) - to the SERVER station. If the remote rotator supports feedback, the current azimuth of the remote rotator is displayed.
- If necessary press

to force or to initialize the display (STOP forces a polling of the Remote Rotator).

CW Keyer

The Remote control iself has no specific CW Interface. However as soon as the Remote transceiver is the Operating transceiver, the TRX-Manager's CW Interface is linked to the Remote transceiver and you can use your keyboard to send CW characters to the Remote station (provided the CW keyer is wired and properly configured on the SERVER computer).

If a **Winkey** device is defined from CLIENT in Setup, you can use the local Winkey device and a paddle for CW keying. Warnings: CW strings are sent "word by word". The latency of the communication may be a disconcerting factor with a paddle. **Paddle EchoBack** must be checked (see also Winkey configuration).

> ***Note***
>
> *TRX-Manager (CLIENT) does not control your SERVER CW keyer directly ; it communicates with the SERVER instance of TRX-Manager to control your keyer. This why configuring SERVER is important. In addition, there is absolutely no relation between the configuration of SERVER and CLIENT (CW setup are totally different).*

SteppIR interface

The **Misc** tab of the Remote control interface allows controlling the Remote SteppIR antenna with critical and basic commands. However synchronization with the Remote transceiver is controlled by the SERVER computer only.

Synchro ports

SERVER: the Synchro ports of the SERVER computer are activated (or not) for linears, antenna and other device provided the **Synchro** option is checked from the Preferences for the Transceiver you use.

CLIENT: the Synchro ports (SteppIR excepted) of the CLIENT computer can be activated for the Remote transceiver provided the **Synchro** option of the Remote TRX window is checked and the Remote transceiver is the Operating transceiver. This may be useful for synchronizing with third party programs...

Commands to LPT or RS232 Ports

Macro commands to any LPT and RS232 port can be sent to the SERVER station using TRX-Command.

ALTERNATIVE SETUP (CLIENT): REMOTE TRANSCEIVER CONFIGURED AS MAIN TRANSCEIVER

Configuring the Remote transceiver as main transceiver (CLIENT) was the recommended setup in the previous versions of TRX-Manager. However, thanks to the concept of the Operating transceiver, this setup is no more required for remote control and the Remote TRX window is enough to control the remote station with the advantage of keeping full control over a local transceiver.

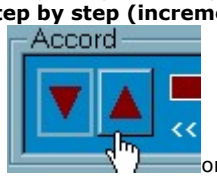
However, if you don't have the use of a local transceiver at the same time as a remote transceiver, you may prefer using the main interface for remote control.

Transceiver

Under Setup, you select **REMOTE** as "transceiver" WHATEVER the transceiver controlled from the SERVER station! In that case the CLIENT station sees the remote station as a generic "transceiver" and you can control the remote transceiver using standard commands from the Monitoring.

The Remote TRX window is still available and additional controls (including macro commands) not supported by the Monitoring window can be used from the IP Control window. The Levels window is not available in this mode (see Real Control mode for using the Levels window).

Operating tips

- The program can check the status of the remote transceiver from time to time using the **Update** button of the Monitoring.
- The behavior of TRX-Manager in Remote mode may be different from its behavior with a local transceiver; this mention especially applies to the scanning commands and filters. This is because the interface is simplified to be able to work with all the different transceivers that TRX supports. The commands available are very different from one transceiver to another; please see your transceiver manual to check the availability of certain commands via Computer especially the ability to switch to TX via the serial port, VOX control...etc.
- If your transceiver features a **step by step (incremental tuning)**, it is remotely controllable from the Monitoring's **Up/Down** buttons 

or by using a Joystick (**R Axis**). This function - unfortunately not available with all transceivers - gives more precise and smooth tuning.
- **Preferences (transceiver)** : most of the preferences such as Tuner, Antenna, Linear, RF Power, Band decoder, filters selection, Band Plan (...) must be defined from the SERVER computer. However, AUTO-MODE is selectable from the CLIENT computer.

Wattmeter

TRX-Manager (CLIENT) does not read your Wattmeter directly ; it communicates with the SERVER instance of TRX-Manager to read your wattmeter. This why configuring SERVER is important. From CLIENT, if a **digital wattmeter** is connected to SERVER, **Remote** will be selected as Wattmeter. Power and SWR will be displayed in the Monitoring window if you select Remote from the meter combo box (please note the linear reminder window does not support the Remote wattmeter).

Rotator

You select **Remote** as the type of Rotator (1 or 2) whatever the rotator configured on the SERVER computer.

CW Keying

From the CLIENT station, the 3 possible choices are:

1. If you choose **Remote** as the type of Transceiver, you may select **CW Internal** under the TRX1..4 Tab (recommended) in order to allow CW operation from the CLIENT's Keyer window whatever the type of keyer connected to SERVER. In that case, from CLIENT, you use your keyboard for CW Keying (and only your keyboard).
2. If **CW Internal** is not checked, **Winkey** can be selected from the CW tab if you want to use a local Winkey device for CW keying. In that case, in addition to the Keyboard you may use a paddle for CW Keying from CLIENT to SERVER. Warnings: CW is sent "word by word". The latency of the communication may be a disconcerting factor with a paddle. **Paddle EchoBack** must be checked (see Winkey configuration).
3. If **CW Internal** is not checked, **REMOTE** is also selectable as CW port (CW tab) for special needs (especially in real mode). In that case, from CLIENT, you use your keyboard for CW Keying.

See also

- Real control mode

Audio transmision

TRX-Manager does not support audio transmission many solutions to transfer the audio from SERVER< ->CLIENT has been described by users on the TRX-Manager's mailing list.

The main possibilities are the followings:

Real-time audio link

This solution requires a V/UHF link, a phone line or wireless headphones. This solution is probably the best suited for DXing because of the quality of the audio and the lack of delay during the transmission. It is - of course - not practicable over long distances such as through the Internet.

TCP or UDP audio link

This solution involves telephony (VoIP) software. More popular software for HAM Radio and DXIng are:

- Skype
- Mumble
- IP-Sound
- Rem Audio

While Skype is very easy to use, widely distributed and does not require a static IP and port forwarding, IP-Sound has some advantages : it is a stereo-bidirectionnal software so dual RX is possible and you can monitor your audio ; also you can choose the more suitable codec however, it uses the less reliable UDP protocol and ... it is discontinued. Rem Audio is promising.

The main drawback of audio processing via TCP or UDP is the delay (from 0.5s to 2s) of the transmission which makes tuning a station in SSB or CW "acrobatic". This solution is perfect for broadcasting in AM via the Internet but less convenient for DXing. UDP is preferable.

Remote control Syntax

You don't need to learn this syntax; the commands are generated by the program automatically. In case you develop your own interface, the commands available are described below.

Sending a remote control command

Remote control can be sent :

1. Using the Terminal (IP: Remote TRX, PKT: Terminal) and the following syntax : **TRXi=CMj;**
   - **i** is the address of the remote station (Packet i=0-9, IP i=0).
   - **CM** is the command as explained below
   - **j** is the parameter of the command as explained below
   - **;** a delimiter
2. Using a macro button and the following syntax ***CMj** where ***** is a preample and CMj is the macro command. The delimiter is NOT required. If *****is ommitted, the command is processed as macro command for the transceiver and must follow the protocol of the transceiver as explained in the macro commands section.

Remote control commands syntax (CMj)

CM = the command
j = the parameter of the command (if available)

The remote controls available are the following ones:

```
Frequency    : FR Frequency in MHz TRX0=FR14.250;
Spot         : SOmfffffffff|CALLDX|COMMENT m= MODE(=0-6/A=AUTO) ffffffff=RX Freq(in MHz) SOA14.200|F6DEX|TRX
TX Frequency: FTmfffffffff m= MODE(=0-6,A=AUTO) ffffffff=TX Freq in MHz (FR-14.205 Default mode, FTX= 14.20

UP           : UP 1 (CW) or UP5 (SSB) + Split mode
Mode         : MD Mode (0-6) TRX0=MD2;
Int. Scan    : TS 0=Up 1=Down 2=Stop
Filter       : FL Filter (0-4) TRX0=FL3;
Split        : SP 0-1 TRX0=SP1;
Sub RX       : SU 0-1 TRX0=SU1;
TX/RX        : TX 0-1 TRX0=TX1;
AutoMode     : AU0-1 TRX0=  AU0;
VFO          : VF 0-2 TRX0=VF0;
A= B         : AB 0-1 TRX0=AB;
Tuner        : TU TRX0=TU1;
Tuner start  : TT TRX0=TT;
Antenna      : AN0-1 TRX0=AN0;
CAT On/Off   : CA 0-1 TRX0=CA;
VFO>M        : VM TRX0=VM;
Status       : ? TRX0=?;
Rotor        : RO Azimuth(3 digits) TRX0=RO030;
Rotor Stop   : ST TRX0=ST;
Rotor Poll   : RP0-1-2 RP1; Polling for rotor 1 / 2 (*)
TXPower      : PW Power (0-100) TRX0=PW30;
AF Volume    : AF Volume (0-255) TRX0=AF25;
RF Level     : RF Level (0-255) TRX0=RF25;
VOX          :  VX 0-1 TRX0= VX1;
CW           : KY string TRX0=KYCQ CQ CQ;
KEYBOARD (*): KB 0-1 TRX0=KB0;
CW STOP      : KS TRX0=KS;
CW SPEED     : KW WPM TRX0=KW25;
Band Dec.(*): BS 0-13 Band Decoder
DSP          : BWIJJJ I=DSP (0-1) JJJ=Value (0-255)
Channel      : CH 1-99
Dual Watch   :DW 0-1 TRX0=DW1;
LPT (*)      : LP piiiiiiii TRX0=LP211110000;
RIG          : RG Rig number (1=RIG1 2=RIG2) TRX0=RG1; (not available)
Tone         : TO ENC+DEC+TONE (CTCSS if valid, -DCS if valid) TRX0=1+0+100.0;
```

```
RptShift    : SH SHIFT Repeater Shift (-1 0 1) TRX0=-1;
RptOffset   : OF OFFSET (KHz) TRX0=600.0;
Connect (*) : RC 0-1 (Packet: connection, RC1 enables S1/S2 buttons) TRX0=RC1; IP(disconnects user only)
Scanning    : SG 0-1


STEPPIR     : SRx (x: H=HOME, I= INTERFACE, S=SET, 0= AUTOOFF, 1=AUTO ON,

              C= CALIBRATE, N=NORMAL, B=BI-DIR, R= 180°, 3=3/4W, P= POLL)

WATCHDOG    : WD 0000-3600Watch dog delay
BAND        : BDJ J=Band 0-13
PASSWORD    : PAXXXXXXXX; XXXXXXXX= Password (caps ON)
UPD LVL (*) : UL (update levels)
CAT Cmd     : CM (reserved)
CAT Status  : DT (reserved)
Type TRX    : TY (reserved)
TRX-Command : MA (reserved)
Meter       : ME (reserved)
OLE Data    : OL (reserved)
Message     : MG (reserved)

LINEAR      : LI (0=OFF 1=ON 2=OPER 3=STBY)
```

(*) These commands are not generated by the program and must be introduced from the keyboard.

```
The parameters are as follows:

OFF   : 0
ON    : 1
VFO A : 0
VFO B : 1
VFO C : 2 (=CH)
LSB   : 0
USB   : 1
CW    : 2
AM    : 3
FM    : 4
RTTY  : 5
PKT   : 6
6K    : 4
2.4K  : 3
2.0K  : 2
0.5K  : 3
0.25K : 4
Band  : 0->13(Gen->70cm)
CH    : 1-99
p     : LPT Port (1-4)
i     : 0/1/- State for pins 2 to 9 (for LPT Port p)
      : 0=low state 1= high state -=no change
RP    : 1-2 Rotor interface number (see Setup)
        0 Current rotor interface
```

Real remote control mode

For experts

The function described below is only available for the TS-480 TS-590S/SG TS-2000/B2000, Elecraft K2 K3 KX3 and ICOM transceivers.

Before reading this section it is recommend you are familiar with the standard remote control interface of TRX-Manager, IP connections and how to configure a network.

An more sophisticated method of remote control

The standard remote control mode of TRX-Manager provides the same standard interface for all transceivers, requires a low bandwidth, is simple to use, is very reliable and supports the most useful functions of a transceiver. However, if you control a TS-480 TS-590 TS-B2000, TS-2000 a K2 (Extended) K3 KX3 or an ICOM, you may find that a lot of functions are missing and not supported by the standard remote interface.

To bypass this limitation, TRX-Manager can operate the com port of a TS-480 TS-590S/SG TS-2000 (TSB-2000) K2 K3 KX3 (Extended) or any ICOM via a LAN or through the Internet: this is the **real remote control mode** . In fact, you use the program (almost) exactly as if the port is open from the CLIENT station: all data to/from the com port of the transceiver are forwarded by the network. This control mode is very similar to the use of a serial device server and may be even more efficient since TRX-Manager filters the useless data, avoids redundant commands and in some cases uses efficient macro-commands.

The Real-mode is only available for the transceivers listed above. Keyers, Rotators, Wattmeters are supported and controlled using the same commands than in standard mode.

Requirements

The minimal requirements are:

- a fast network (>10MB/s)
- operating the transceiver at the highest speed (>= 19200 Bauds)

Configuration

You must configure the program as follow:

1) SERVER station

- Same configuration as for the standard interface but **UDP protocol is recommended**.

2) CLIENT station

2.2) Setup/TRX1..4

- Transceiver: You must check select the desired transceiver (TS-2000, Elecraft K2, K3 KX3, TS-480 TS-590S/SG or any ICOM) and check **IP Port**.
- **Rotators, Wattmeter**: Remote must be selected selected
- **CW Keyer**: 2 possibilities

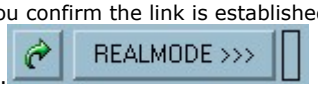
1. **REMOTE** selected as com port from the Setup/CW Tab (**CW Internal**, if available is equivalent). You use your keyboard for CW Keying
2. **WINKEY** is selected and CW Internal is NOT checked: in addition to the keyboard, you can use your paddle connected to the Winkey device for CW Keying

2.1) Remote TRX

Same configuration as for the standard control mode using the same protocol as the one set for the SERVER computer (**UDP recommended**).

Operation

1. You connect the SERVER computer from the CLIENT computer using exactly the same procedure and settings than for the standard mode of control. The communication is first established using the standard mode of control.
2. You open the **Monitoring** window

3. Once you confirm the link is established you click the **REAL MODE** button at the bottom of the Remote TRX window. 

4. The green led lights and the Monitoring is refreshed

Now, you have full control over your remote transceiver via IP from the **Monitoring** window and all other windows of TRX-Manager.

Operating tips

- You can even control the memory channels but you may find the program too slow for this application!
- The Monitoring's update button forces a polling for the full status of the rig
- Macro-commands and rotator control of the Remote Window are still usable in Real control mode.
- Should this happen, you may toggle from Real Mode to Standard mode by clicking in the Remote control interface.
- The sliders do not support the mouse-wheel in real-mode. Please use the mouse movements only.
- "Auto" settings such as : Tuner, Antenna, Linear, RF Power, Band decoder are set by the SERVER computer only (the CLIENT computer's settings are ineffective). The AUTO-MODE's preset filters and Band Plan are set by the SERVER for DX Spots and by the CLIENT for a manual selection (both computers must be set up accordingly). AUTO-MODE is switchable from the CLIENT computer.

Note for ICOMs

When a command is sent using the real remote control mode, the CLIENT station does not wait for the OK message (acknowledge) from the transceiver. However, the SERVER station, by waiting for the OK message, does check if the command has been accepted and send it twice if necessary... Errors at the com port are minimized but in some rare cases, since pollings of some parameters, especially Split (*) are not supported, an erroneous display and a wrong operation is possible. From this point of view, the standard remote control mode is more secure.

(*) Frequency and Mode pollings are supported by all ICOM rigs. RX/TX polling is not supported by all ICOM rigs.

Alternatives to the remote control function

Alternatives to the remote control function

While the TRX-Manager's standard remote control mode (A) is economical, powerful and simple to use, and will work with almost any network connection, there are a couple of alternate methods available which have been used successfully in conjunction with TRX-Manager. Depending on your particular needs, these methods may be attractive to you. The most viable methods are listed below :

B) Using the real remote control mode of TRX-Manager (TS-480/2000/590 K2 K3 ICOM). This mode gives you remote control exactly as if the com port is open from the CLIENT station and is very similar to the use of a serial device server or a remoterig device with LESS data exchanged! However, it requires an excellent IP connexion,

C) The TRX-Manager's Web Server is very easy to use and universal since its Web Interface works from any system but it has very limited functions and interactivity is reduced

D) Use of **serial device servers** (including Remoterig device). This method of remote control involves using a remote computer running a server software and/or standalone hardware devices to make remote serial ports appear to be located at a local computer. The method provides direct control of the remote rigs, rotators, etc. In order to improve operation with this method, it is desirable to disable the **Dual Control** mode of TRX-Manager (see also Disabling Dual Control). On Elecraft K2, K3, you have to check the **LPBridge, Serial server** option.

E) Use of desktop remote control software (like pcAnywhere, winVNC, or Teamviewer...). This is a simple method to setup and use, but requires that all software be located on the remote computer. The "feel" of this method depends on the speed of the network connection.

These alternate methods of remote control are listed for reference only, and are not supported functions, beyond what is presented here. As with TRX-Manager Remote Control, these methods may not support all functions of your particular rig. For further support/information about these methods, please check the archives on the TRX-Manager mailing list... and the N8LP's web site.

Solutions >	A	B	C	D	E
Master software	TRX-Manager	TRX-Manager	any Internet Browser	TRX-Manager	Remote Desktop software
Slave software	TRX-Manager	TRX-Manager	TRX-Manager	Serial Device Server	Remote Desktop software + TRX-Manager
Remode control mode	Standard Remote	Real mode (TCP/IP)	Web Server	Serial server	-
Supported Network	Packet & Telnet (Internet, Home network)	Telnet (Internet with reservation, Ethernet)	Web (Internet, Ethernet, WiFi, Cellular network)	Home Network	Web (Internet with reservation, Home Network)
Supported transceivers	All	All ICOM, TS-2000/480 K2	All	All ICOM, TS450/850 and older Kenwoods	All
Remote control	Critical and essential functions + Rotator	All functions + Rotators	Critical functions only + rotator, Interactivity reduced	All functions	All functions + Rotator
Logging, DxSpotting	Supported	Supported	Only spotting supported	Supported	Not supported
Master Setup	Remote selected	Real rig selected TCP/IP=ON	-	Real rig selected Dual	-
Master Preferences	Remote=ON Master=ON	Remote=ON Master=ON	-	Remote=OFF Polling Delay	-
Slave Setup	Real rig selected	Real rig selected	Web Server activated	-	Real rig selected
Slave Preferences	Remote=ON Slave=ON	Remote=ON Master=ON	-	-	Remote=OFF
Pro/Con	Easy to use, fast but limited functions, recommended for Internet	Protocol optimized, very efficient for Home Network	Very easy to use, universal but interactivity reduced	Protocol not optimized	Slow, no logging (or via the remote desktop) but not specific

The various way of remote control using TRX-Manager

Web Server

TRX-Manager's Web Server is a very different and alternative approach to the standard remote control via Packet or IP.

Thanks to a **Web interface**, remote control is possible from any computer regardless of its operating system (Linux, Apple, Android, SmartPhone…) equipped with an audio link via Skype (or other). However, this method of remote control is more limited with less interactivity than standard remote control.

The Web interface supports the most basic functions of the transceiver and provides **rotor** control and a small **CW interface**. Audio transmission is not supported. Standard (or Real) remote control and Web Server may be used simultaneously.

Warning

Making your IP address public exposes you to malevolent intrusions.

Quick Start

Before you configure the Web Server, it is recommended you perform a quick test using the computer where TRX-Manager is running and the initial default parameters.

1. Open the WebServer from the **Transceiver/Web Server** submenu,
2. Keep the default parameters: (**Port 80** checked, **Password unchecked**),
3. Activate the Web Server by clicking the **OPEN** button,
4. Using the same computer, from your Internet browser, type in this URL in the address bar : http://127.0.0.1 (*) and click the **GO**button or click
5. The Web Interface opens in the browser and you can familiarize with the controls

See also

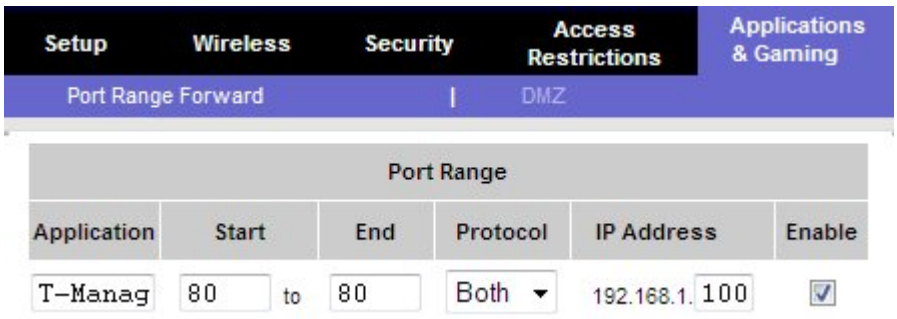
- Smartphone instructions by PDA (PDF)

*(*) Note : **127.0.0.1** is not a local address but a standard address only used for a loopback connection on a same computer. Do not use this address later for external access (Internet or Local).*

Setting up your router and your firewall

To allow access from the Internet, setting up the **router** (if you use one) is mandatory in order to forward all incoming requests, for the specified port, to the computer where TRX-Manager is running.

Below is the configuration of a Linksys router for the port 80. TRX-Manager is installed on the computer which has a local address of 192.168.1.100.



Setting up a Linksys Router

Note : this setting does not affect Web activities for other computers of the local network since it only affects incoming requests, not outgoing data.

It may be necessary to set up your **firewall** to allow for external requests on the specified port.

Setting up the server

Port, two cases are possible :

1. **Port 80 checked** : the port in use is the port 80 (default port for the Web). This is the easier way to use the Web Interface but for security reasons, it is recommended you use another port.
2. **Port 80 unchecked** : you type in the port of your choice (i.e 8500) but you must also specify the **base address** of the computer; it is a local address for local access only and the Router's Internet IP for Internet access (*).

(*) Note : The specified address and port are coded in the head's Base tag (<BASE ref =…>) of the html page. If the address is wrong, the interface may display the first time but control will not be possible. Generally the Internet address of the router works even with local access.

Password, there are two choices

1. **Password not checked** : in that case, control is available to all users at the same time. There is no logging and (no log of users).
2. **Password checked** : you type in the **Password** (any length) and the maximum **period of inactivity** (in minutes) after which the server automatically disconnects. In that case, only one user can control the radio at the same time. In case of inactivity, the server disconnects after the specified delay. All users are logged in by IP in the **webserver.log** file.

Auto Refresh

If auto refresh is checked please specify the delay (2-30s) after which the page is refreshed. A refresh is done only once after the most cririca commands. 5s is recommended.

Viewport (iPhone)

Set up for the initial scale of the screen (in Pixels).

Tag

Adds a user defined tag in the <Head> section of the page. I.E:

<body onload="window.scrollTo(0, 1)"> *hides the URL bar on the Safari browser.*

<meta name="viewport" content="width=300px"> *forces the zoom for a width of 300 pixels (to be adjusted to your smartphone)*

Setting up remote control

You may specify some limitations such as :

- **TX** (authorization for TXing), **Frequency Range** (in MHz, for TXing), **Maximum Power** in Watts,
- Authorization for using the **Rotor** ,
- M**aximum AF volume** for the receiver (0-255),
- **DX Spots** relay, **maximum number** of Spots and display of the **DXCC Award** status (by colors) (*),
- Predefined **CW messages** and **Macros** ; however, these parameters may be edited dynamically from the Web Interface
- **Logbook** : allows quick logging of the current Spot (QSO must be edited for additional information such as DXCC country...).

*(*) Note : in all cases, Spots relayed by the WebServer are those received from the Telnet/Packetor WebCluster TRX-Manager's interface (if active) using the filters defined under the **Preferences** of the Terminal or of the WebCluster.*

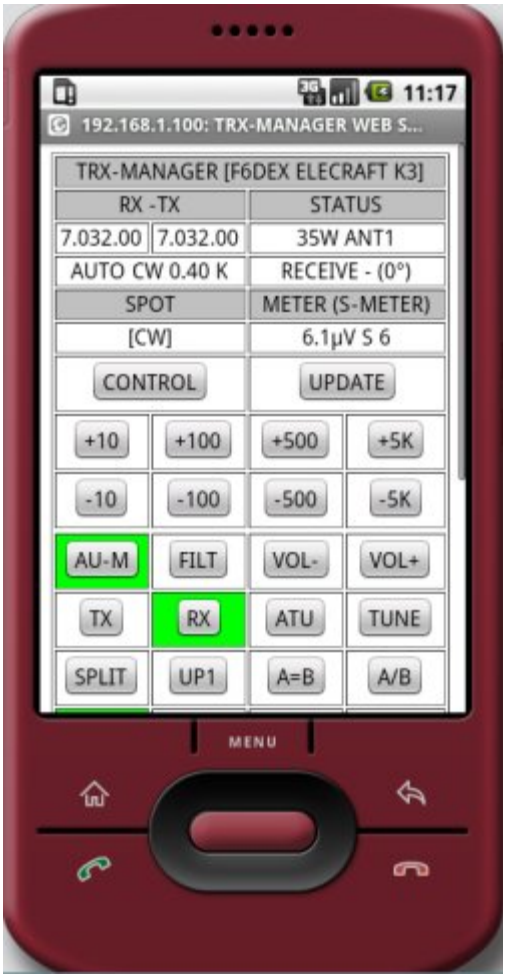
Using the Web Interface

From the Server computer (which controls the station), please launch TRX-Manager and the Monitoring. If needed launch the WebCluster or connect a Telnet Cluster to relay spots. Activate the **Web Server** (**Transceiver/Web Server** submenu) using the **OPEN** button.

From the remote computer or device, please launch its Internet browser and connect to TRX-Manager by typing in the Server's address in the **URL** field of the browser ; click the GO button of the brower. If you connect from a local network, you use a local address such as http://192….. If you connect from the Internet, you must use the Internet IP of the router.

If the defined **port is not 80**, you must specify the port by adding the **suffix :nn**(nn= port)to the web address (i.e < /FONT> http://192.168.1.100:8500 if 8500 is the specified port).

If a **Password** is requested, a welcome page displays. Type in the Password and click **Enter**. If the Password is valid, the Web Interface is displayed.



TRX-Manager from a SmartPhone (Android)

Implemented controls are simple and easy to understand. The interface is compact enough to display on small screens.

- **CONTROL** (PANEL) opens/closes a frequency/mode... settings entry box.
- (STATUS) **UPDATE** is an important button which synchronizes the display of the Web Interface and the real parameters of the station. It should be noted that often a delay of a few seconds after a command is sent and confirmation received from TRX will occur (**auto-refresh** checked and a **delay of 5s** generally solves this problem).
- **DISCONNECT** manually disconnects (in case a password is requested).
- **SPOTS** opens/closes the DX Spots display (if available).

Update of the display is automatic after the most critical commands if **auto refresh** is checked . It may also require, in any cases, manually clicking the (STATUS) **UPDATE** button. The layout of the Web Interface may differ according the remote control' options.

Tip

On **iPhone** the free application **Vanilla Surf** may give better results than Safari making possible for the user hiding the top and bottom interaction lines.

Troubleshooting

No connection possible

please do a quick test of the Web Server as indicated in the **Quick Start** section. Don't forget to activate the Web Server by clicking the **OPEN** button. If this test is successful, either the addresses are wrong or your router is not properly configured. Please consult the manuals of your devices ; there are 3 main areas to check: 1. the router for correct port forwarding, 2. windows firewall, 3. virus software

The Web Interface displays the first time but control is never possible

Probably the specified **base address** is wrong (especially for internet access) or port is wrong.

Disabling Dual Control (for experts)

TRX-Manager - by default - features a "dual control" of the transceiver: any action on the rig is detected by the program and the new state of the transceiver is displayed by the interface. It uses the full communication protocol and checks that any action from the program has been accepted by the rig before displaying it on the interface.

In some cases, this dual control is not desirable: especially when your transceiver is remotely controlled, not using the remote control feature of TRX-manager (which requires two versions of the program running on two computers) but through a **serial device server** or any system which emulates a remote com port (virtual port). In such cases, not only is the dual control not essential, but it requires a very fast connection and increases the flow of data.

Disabling the dual control reduces the data flow to the strictly necessary bytes to control your transceiver.

To disable the dual control, you have to uncheck the **Dual control** option (**Setup/TRX.**) or to check the **LPBridge, Serial server** option (K2, K3). This option is not available for all rigs : if this option does not appear (TS-480/2000/590), or is grayed out, TRX-Manager does not support it for the selected rig. As implied in the introduction, this option can degrade the reliability of the CAT control, and **it is not the normal mode of operation for TRX-Manager!**

Using TRX-Manager with dual control disabled

The behaviour of the program may be very different from one transceiver to another and depends on the way you connect the remote transceiver to the local computer. The common characteristic is that, with dual control disabled, polling are disabled ; this does not mean that it is not possible to retrieve the state of the distant transceiver :

- On Icom, Kenwood, recent Yaesu, the rigs are interrupt driven: if your connection is bi-directional, a number of key functions will be updated at the conclusion of any tuning commands, including frequency. There is almost no difference with the "dual control" mode except that any protocol is ignored. The recent rigs send automatically any change of their status (no polling required),
- On Old Yaesus, the full display is updated at startup and, if necessary, by pressing the **Update** button (see below); however the update function still requires a very fast bi-directional connection. If you can not update the display properly it is advised to set up TRX-Manager for the generic **Yaesu** transceiver under **Setup/TRX**... this option stays compatible with FT-990/1000/D/MP and does not require a bi-directional connection.

Functions

It may be necessary, from time to time, to poll the transceiver for it's complete status by pressing the **Update** button of the Monitoring panel.

Update button

CW Interface

Sending CW

TRX-Manager provides a small terminal (Tools/CW Keyer) for transmission (but not the reception) of Morse code. You may use :

- The **TRX-Manager's CW generator**: TRX-Manager keys the **RTS** or **DTR** line of a serial port or the **Select** line of a **parallel port**. A specific but inexpensive switching interface is required between the com port (or LPT port) and the Key line of your transceiver.
- A Winkey Keyer
- The **Internal** electronic keyer (CAT) of the TS-480/570/590/870/990/2000/K2/K3/KX3 transceivers

You configure the CW Keyer to be used from the Setup dialog.

Related Topics

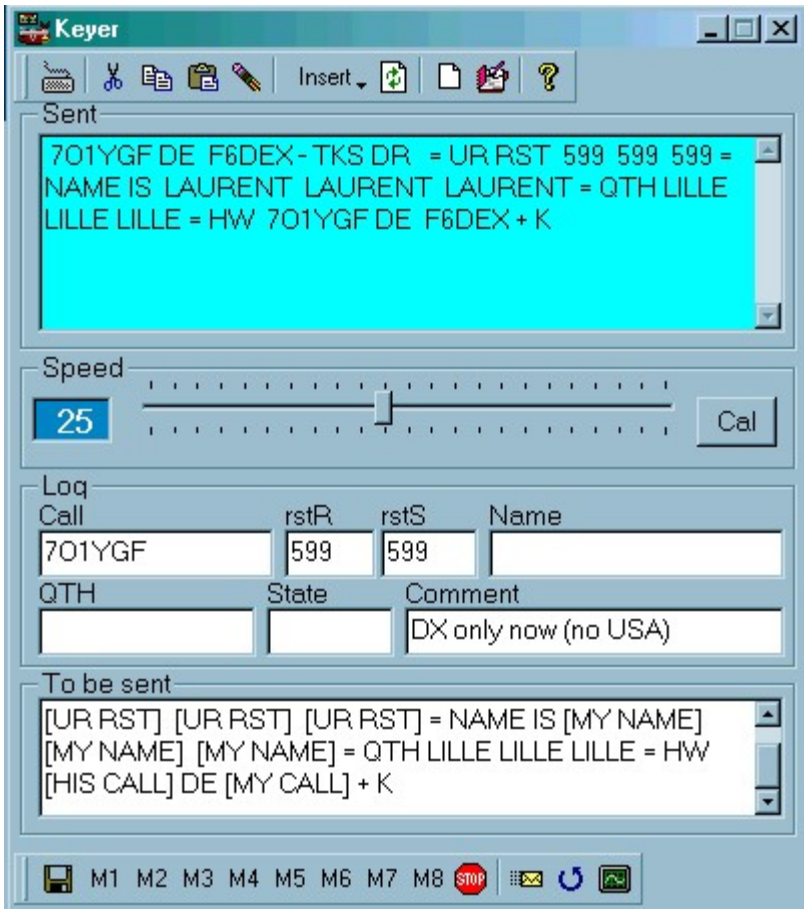
- Elecraft
- TS-2000/570/480/590
- TS-990S
- Winkey
- CW Skimmer Interface

From this terminal, you:

- **compose** messages, send them immediately or store them in **memory**
- send CW messages in **line mode** (the message is sent after the Enter key has been pressed)
- send message in character **mode** (each character is sent immediately after being typed)
- have a quick access for logging
- can use macros

Support is provided for special characters, CQ sequencing, control of the TX line

Interface



Sensitive image
Move the mouse over the picture for more information

Tips

It is suggested that only experienced CW operators use this interface… it is also advised to plug a traditional key in parallel with the PC. You also have to disable the internal electronic keyer of your transceiver.

Composing, sending and storing messages

Adjust your speed (1 to 50 words minute) as you wish using the slider.

Compose your messages from the **To be sent** dialog box then click the **Send**button (**Ctrl-K**)for an immediate transmission. You may store the message in memory by clicking the **Save** button then the number message**M1-16**.

The Toolbar displays M1-8 by default. To display M9-16, please right click the toolbar and check M9-16

To send a stored message, click the corresponding button **M1-16** (or **F1 to F8** keys). You will be able to edit it and to store it again.

The **Stop** button (**CTRL+F12**) stops the transmission (sometime with a delay). The detection of a TX interrupt command also stops the transmission immediately.

Note

If you move the mouse during the transmission, speed will be slowed down or random.

Typing your messages

Line mode

Type your message and press the **Enter** key: the corresponding line will be transmitted. A buffer allows you to type the next lines without being obliged to wait for the end of the transmission.

Characters mode

Press the **Keyboard** button in order to engage the character **mode** and then begin typing of your message : the transmission starts immediately. The **Enter** key generates the **+K** code.

Using macros

Some different macros are available from the **Insert** menu. This function is not available in characters **mode** but it is still possible to use **quick macros** made up of special characters.

Quick logging

The interface displays the logbook's most often used fields (Log frame is switchable using the **Log** 's toolbar button.). Please fill in these fields in order to activate the corresponding macros. Press the **Log** button (**CTRL-S** or **F12**) to log and save the QSO or the **Paste To Log** button (**Ctrl-P**) to log without saving the QSO in order to let you to complete all fields.

CW Interface settings

This section describes how to configure the TRX-Manager for CW Keying:

A : TRX-Manager as CW Generator
B : Keying using the internal CAT Keyer of the transceiver
C : Keying using Winkey

A) TRX-MANAGER AS CW GENERATOR

TRX-Manager generates CW and keys the **RTS/DTR** lines of a serial port or the **Select** line of a parallel port.

You configure the CW keyer from the **CW tab** of the **Parameters/Setup** dialog.

However, please uncheck the **Internal CW** option for the transceiver to be used with this keyer since **CW Internal** has the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT (see C).

A.1) SERIAL PORT

How to choose the serial port and the line to use ?

The CW interface keys the **DTR** or **RTS** line of a serial port. As DTR or RTS lines are not used by all the serial ports, you can use an already occupied port provided you make sure that its DTR or RTS line is free.

For your information, from TRX-Manager:

- **DTR** or **RTS** lines of the **Transceiver** ports can be disabled in order to be available for CW (then check the correct operation of your CAT interface)
- **DTR** or **RTS** lines of a **TNC** are both used and are therefore not available for CW
- **RTS and DTR** lines of the **Rotators** are reserved and are therefore not available for CW.

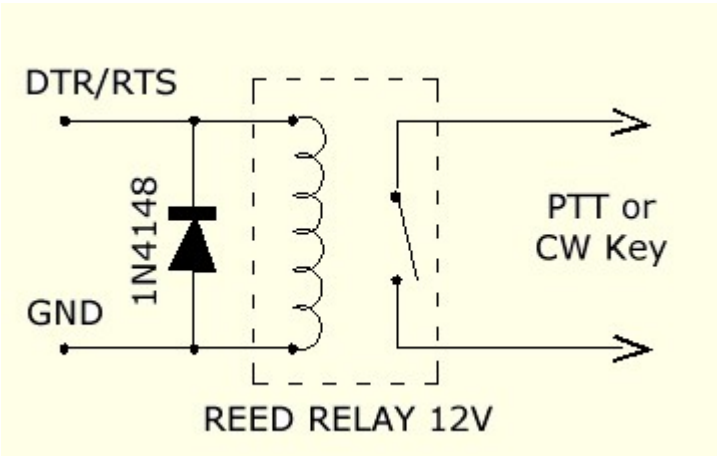
If you carry out a bad selection, TRX-Manager prompts a warning message but you could also note a continuous key-down condition. Your choice must be coherent with the choice made for the PTT line.

Under Windows ME

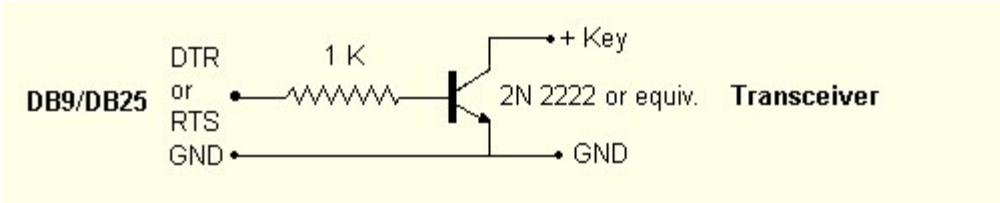
Please see the Troubleshooting/Serial port section for more information about the DTR and RTS lines.

A.2) Serial Interface Interface wiring

The interface, identical to that of other programs, is very simple to build. The level of RTS (or DTR) lines passes from -12v to +12v with the rhythm of CW Keying. A 1N4148 diode makes it possible to chop the -12v signal whereas a fast relay (standard reed DIL) is switched by the +12v. The whole unit can be assembled in a DB9 or DB 25 connector.



Serial interface using a reed relay



Serial interface using a transistor (positive keying - not isolated)

On a DB25 serial port connector, pin 20 is DTR, pin 4 is RTS, and Signal Gnd is pin 7.

On a DB9 serial port connector, pin 4 is DTR, pin 7 is RTS, and Signal Gnd is pin 5.

A.3) PTT Switching

If the CW Port is not the Transceiver Port, TRX-Manager also puts a PTT signal on the unused line of the CW port (not related with PTT switching which is always on TRX port). I.E : You key the RTS line : a PTT signal is available on DTR line for PTT switching.

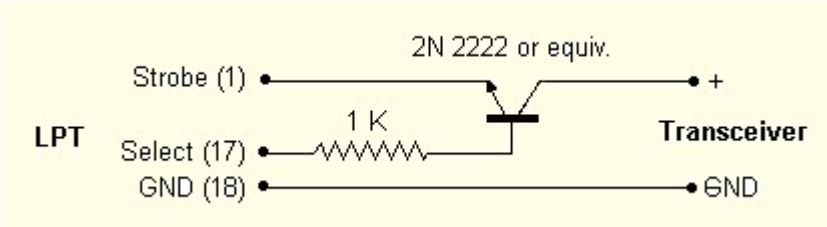
A more sophisticated PTT switching via the normal TRX-Manager's PTT Lineis also available by using the Auto TX feature.

A.4) PARALLEL PORT

How to choose the parallel port

The CW interface keys the **Select** line of a parallel port. You must choose a free LPT port because the CW Interface can not be used with any other device (i.e. a printer, rotor...). However, it is compatible with the band decoder of TRX-Manager.

The program keys the **Select** line (Pin 17) while state of **Strobe** (Pin 1) is low. The CW interface is compatible with the interfaces of the other popular programs :



Parallel interface (positive keying - not isolated)

A.5) System priority

An important parameter is the priority you grant to the CW transmission compared to the other programs. Indeed, Windows is a pre-emptive multitasking system : that means that it shares the CPU time to the various programs to enable them to be carried out simultaneously (at least seemingly).

This principle is not very compatible with the generation of CW code! Therefore TRX-Manager sets by default the High priority option which slows down execution of the other programs loaded in memory. Please check the Normal option if you encounter crashes or check the Real Time option to stop all the other programs.

Of course, TRX-Manager resets to its initial priorities when the CW transmission is ended.

During the CW transmission, sound is disabled the same as when the Web Cluster automatically loads. The mouse remains active but it is advised to leave it motionless in order not to slow down the keying.

B) KEYING VIA CAT (INTERNAL CW KEYER)

Direct Keying via CAT is possible for some transceivers by checking the **CW Internal** option under the tab of the corresponding transceiver (TRX1-4). This option is available with **TS-570/870/2000/590/990 K2/K3/KX3** OR for Remote operation (from CLIENT). In these cases, you don't need any additional interface.

Please note the **CW Internal** options (TRX1..4 tabs) have the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT. This option has no effect for a transceiver which does not support keying via CAT and in that case TRX-Manager applies settings of the CW tab.

C) KEYING USING WINKEY

Please see the specific section of the help related to Winkey.

Other settings to choose from Setup

For all configurations.

- **Special characters**: related to the CW Characters set,
- **TX Auto**: automatic switch into TX mode (not available with **CW Internal** and **Winkey** options)
- **TX Delay**: delay between TX mode and beginning of the transmission,
- **CQ Delay**: delay for the CQ Sequencer.

Auto TX

In CW, automatic switch of the station into TX is done normally by the **Break-In** or the **VOX** of the transceiver.

In certain cases (use of a linear amplifier or a preamplifier), it can be useful to sequence the switch into TX by first issuing a separate command to close the PTT line before actual transmissions begin. In this case, TRX-manager then operates as follows:

1. Switching into TX by the selected line (CAT, DTR or RTS)
2. Incorporating the **TX Delay**specified in Setup
3. Checking of the state of the transceiver
4. If TX, sending of the CW.

AUTO TX is Not supported by Winkey or a Kenwood/Elecraft CAT interface.

Activation

It is advised to not use this function if you do not have a real need for it, and the necessary electronic interfaces are constructed.

To activate AUTO TX, you have to check the **Auto TX** option (**Setup** , under **CW**) : the switch is done then by the **CAT** (RS-232) or the serial line (**DTR** or **RTS**) according to the selection for the PTT line made under **TRX1**. CW is sent after the specified **TX delay** (CW tab).

Please note that using the **Break-In** is then not possible and does not make any sense in this case.

Possible problems

By safety, TRX-Manager checks that the transceiver is in transmit mode before sending CW ; also, if you receive the message **TX ERROR**, it can have several causes :

- you choose to switch into TX by the CAT but your transceiver does not have this function,
- your transceiver does not return any data indicating the TX mode,
- the **TX Delay** is too short
- the monitoring module is not under operation.

When **TX ERROR** is displayed, the CW interface is deactivated (you must close it then to start it again). You will have also to choose a switch into TX by DTR or RTS line and/or, if necessary, to increase the value for **TX Delay**.

In addition, it is possible that this function is unusable with some transceivers taking into account the variety of the behaviors of the various models.

Tip

In order to check if your transceiver communicates to the PC the TX/RX mode changes, proceed as follows:

1. Open the monitoring module,
2. Switch into TX directly from the transceiver
3. Check that the monitoring indicates **TX...** in the Status box.

If your transceiver does not communicate this data (case of old ICOM transceivers), this function is usable but there is no checking of the state of the transceiver before the sending of CW.

Warning

In spite of the apparent simplicity of this function, it invokes a complex logic. It is advised to carry out many tests before using it with a preamplifier or a linear amplifier. It is essential to switch **Off VOX** and **BreaK In** in order to prevent any undesired starting of a CW transmission. In the same way, an independent checking circuit is necessary in order to prevent any effect of the failures of the program, erratic behavior of the communications protocol, or a serial connection which is not 100% reliable.

CW Macros

The **Macros** are predefined fields made up of the current parameters such as your callsign but also that of the station you're working, his name etc... Extended macros allow you advanced features. Macros are used in the CW module and in the MMVARI module.

Available macros

The macros are inserted in the message at the current position of the cursor using the **Insert** (or **Macros**) menu. The program inserts the following fields :

```
[MY CALL]     : your callsign (your UserID)
[UR RST]      : the report sent to the station
[MY QTH]      : your QTH (Preferences/Location)
[MY RIG]      : the transceiver in use
[MY NAME]     : your first name (Preferences/Location)
[PWR]         : the power (Preferences/Logbook)
[TRX-MANAGER] : your favourite program !
[ID]          : [HIS CALL] DE [MY CALL]
[HIS CALL]    : the callsign of the station in QSO
[HIS NAME]    : the first name of the station in QSO
[HIS QTH]     : the QTH of the station in QSO
[DATE]        : current date - Windows format (Date tab)

[TIME]        : current time

[STX]         : serial number (contest)

[MY GRID]     : your GRID (Locator)

[MY STATE]    : your State
```

> ***Note***
>
> *Please do not edit the text inserted inside square brackets. This may prevents the program from being able to understand the macros.*

Quick macros

When using the **character mode**, insertion function is not available ; however, you still can use the following special characters :

```
µ: [MY CALL]
\: [MY CALL]
*: [MY NAME]
%: [MY QTH]
!: [RST]
@: [HIS CALL]
#: [HIS NAME]
§: [TRX-MANAGER]
{: VE
}: VA
|: AS
_: Space
```

Please see this strange QSO with Gerry VE6LB :

```
@ de µ = tks fer call = ur rst ! ! ! = name * * * = qth % % % = how dr # ? +K
```

```
Which means :
```

```
VE6LB DE F6DEX = TKS FER CALL = UR RST 599 599 599 = NAME LAURENT LAURENT LAURENT = QTH LILLE LILLE LILLE
```

Extended macros (CW Keyer only)

These macros allow you programming of the CW sequencer. These macros use the following format :

[X:Y] with X=command Y=Parameter

Value for X :

N=retries the message the specified number Y of time
D=repeats the message while duration is less than Y
M=inserts message Y
P=dynamically changes the length of the particular **CQ delay** mode selected to the specified Y seconds
C=**0/1** permits changing the CQ mode from **pause** (standard) to **period**
S= Speed Change Buffered (Winkey only) with Y = speed in WPM.
H= HSCW Speed change (same as above for HSCW) with Y= speed in WPM
B=Cancel Buffered Speed Change (Winkey only), no parameter

Example 1) Schedule (synchronized timing) mode (CW Sequencing)

[C:1] [P:120] CQ DE F6DEX [D:60] +K

The program will repeat the message (CQ de F6DEX) during 60 seconds and end with +K. The CQ mode is **period** : this message will start again after the 120 seconds following the beginning of the sequence (at 00:00, then 00:02).

> ***Note***
>
> *You must press the CQ Sequencing button and the corresponding message button to engage the loop.*

Example 2) Standard CQ mode (CW Sequencing)

[C:0] [P:60] CQ de F6DEX [N:3] +K

The program will repeat **CQ de F6DEX** 3 times then end with +K. After the message has been sent, the program pauses 60 seconds (cq mode= **pause**) and starts a new CQ.

> ***Note***
>
> *You must press the CQ Sequencing button and the corresponding message button to engage the loop.*

CQ Sequencing

TRX-manager includes a sophisticated CQ sequencer.

Principle

The cycle button makes it possible to launch a loop of CQ calls (or any other message). The delay between calls (**CQ Delay**) is specified from the Setup under **CW** (**Pause** mode is the default). This is the delay between the beginning of the first CQ and the begenning of the second CQ (this delay includes the duration of the CQ call).

Operation

Any message can be used for CQ repeating (looping) calls : press first the cycle button followed by the number of the desired message (**M1-M16**) or .

This function can be used simultaneously with the automatic switching into TX feature.

Between the calls, the loop stops automatically as soon as you switch into TX manually. During a call, you must use the **STOP** button to stop the transmission or the TX interrupt function (running faster than the Stop button).

Modes Pause and Period

By default, the CQ sequencer uses the **Pause** mode : it means that the messages are repeated after the **CQ delay**defined from the Setup. However, the extended macros make it possible to modify the duration of pause for each message or to switch into **Period** mode : in this last case the messages are repeated with regular intervals as from the beginning of the first message (this mode is used for **meteor scatter** or **moonbounce** operation, in which synchronized transmitting and receiving sequences are required).

CW Characters set

TRX-Manager provides support for most of the Morse characters. However some characters are not used very often and thus ignored by most HAM operators. The **Special characters** option (**Setup**) allows you to disable these characters.

Not supported by Winkey or a Kenwood CAT interface.

Standards characters

- alphabet **A-Z**
- number **0-9**
- standard punctuation **= / + ?**

Special characters

- **É È Ç Ä À Ö Ñ Ü Å**
- punctuation **- ( ) . , : ' _ & $ "**

Shortcut keys (characters mode only)

- End =VA
- Home=VE
- Entrée=+K
- BkSp=Error
- Pause=AS

Quick macros codes

The **µ** * **% ! @ # § { } |**characters are used by macros **.**

Winkey Interface

TRX-Manager provides extensive (local) support for the K1EL's Winkey & Winkey2 interface.

Winkey2, WKUSB

TRX-Manager automatically detects Winkey2. Configuration panel slightly differs taking advantage of specific Winkey2's functions. In addition, if you use WKUSB you may assign each Winkey's PushButton either to a message (macro undchecked) or a macro-command (macro checked) to be sent to your transceiver.

Setting up TRX-Manager

To operate Winkey, please open the **Parameters/Setup** dialog and select the **CW tab.** Select the Serial Com port from **Setup/CW** tab and check the **Winkey** option.

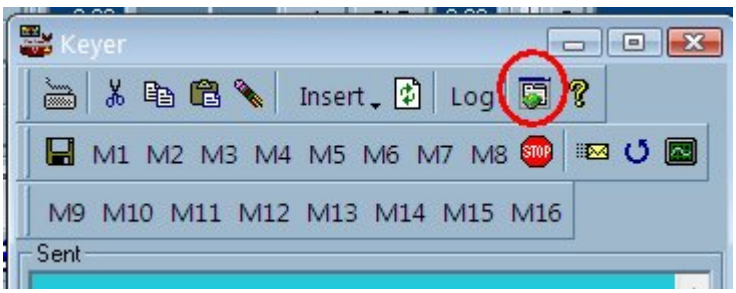
Dual Ctrl. (Dual Control) is checked by default. You should set OFF **Dual Ctrl.** only if you use Winkey through a serial server (in order to reduce the communications between Winkey and TRX-Manager during transmission of morse code).

Notes

- *Please uncheck the **Internal CW** option (TRX1..4 tab) for the transceiver to be used with Winkey since **CW Internal** has the priority over any other settings of the CW Tab for a transceiver which supports keying via CAT.*
- *Opening the Keyer modules opens the Winkey's com port; the port is closed by closing the Keyer module. At startup, TRX-Manager displays the ROM revision code in the status bar.*

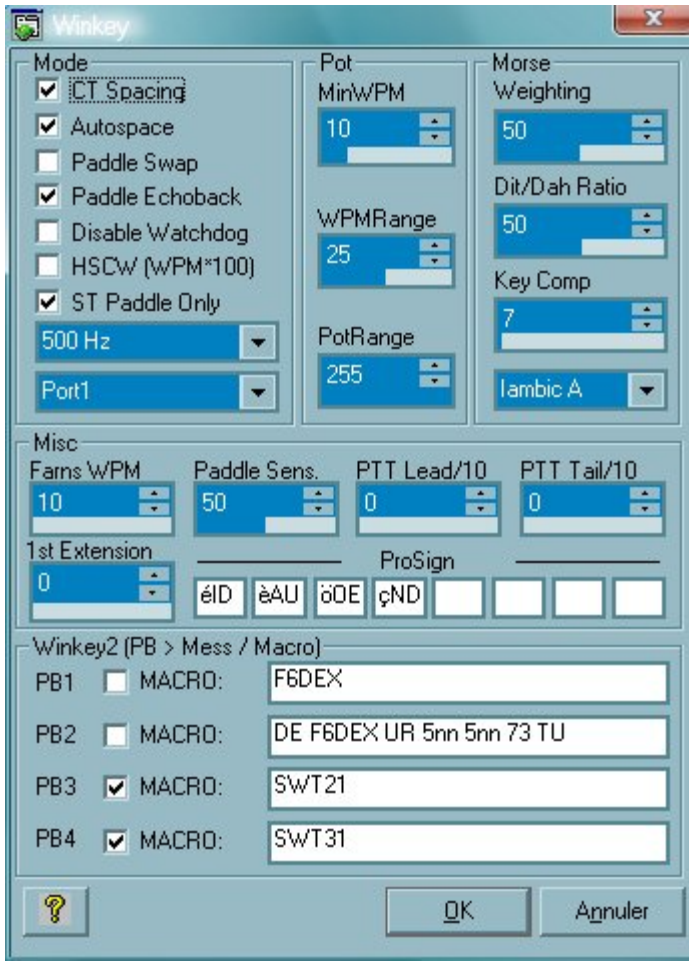
Configuring Winkey

Once TRX-manager is set up for Winkey, exit and restart. Now, please open the Keyer module from the Tools/Keyer submenu. If Winkey is properly configured, the Winkey's ROM revision code appears in the status bar and the toolbars of the keyer module shows a Winkey icon as follow:



Keyer window and Winkey icon

Please note, each time you run TRX-Manager, Winkey is configured with the TRX-Manager's settings. Consequently, the first time you run Winkey from TRX-Manager, it is important you click the the Winkey Icon in order to configure Winkey.



Winkey configuration dialog
ENLARGE the window if this icon does not appear

Please see Winkey's user manual for more information about the parameters.

Some of these parameters (Weighting, Dit/Dah ratio, Key comp, Port) are saved BY Transceiver (TRX1...4).

Prosigns

TRX-Manager's prosigns (see Macro) have the priority over Winkey's prosigns and can not be (re)defined. TRX-Manager's CW special characters set is not supported by Winkey.

From the Winkey's configuration dialog, you may merge up to 8 pairs of letters into a prosign. One application of this feature is to send special European language characters : i.e **éID** means letter **é** will be sent by merging **I** and **D** (**..-..**).

Following prosigns : **µ\!%&*§@#}{|[]~«»** are not permitted since they are used by TRX-Manager.

TRX-Manager's Winkey interface understand _ (underscore) as space making possible additional spaces between letters.

Advanced functions

- **BackSpace** backups the input buffer pointer by one character. This command is only meaningful if there is something in the serial input buffer, otherwise it is ignored,
- **CTRL+F12** stops the transmission (same effect than a paddle press),
- **Pot** button gives the priority to the Speed pot (at startup TRX-Manager takes the speed from Speed pot),
- **Change Speed Buffered** and **Cancel Buffered Speed Change** functions are supported by inserting macros into your messages : **[S:wpm]** : to change Speed and **[B:]** : to cancel Speed change with **wpm** is the desired speed in Word per Minute,
- **HSCW Speed change** is supported by inserting macros into your message **[H:lpm]** where **lpm** is the desired speed. Use **[B:]** to cancel HSCW Speed change.This allows you to insert an HSCW burst in a regular CW message or to put HSCW bursts of two different rates into the same message.

CW Skimmer Interface

CW Skimmer by Alex VE3NEA is a panoramic, multi-channel CW decoder and analyzer.

How to synchronize with CWSkimmer

TRX-Manager provides different ways to synchronize with CW Skimmer.

Telnet Link

CW Skimmer has a built-in "read-only" Telnet cluster server. The clients can connect to this server and receive DX spots. In addition, when the operator clicks on the callsign on the Band Map, in the Callsign List dialog or in the Received Text panel, the CW Skimmer server sends an announcement message to all connected clients such as "To ALL de SKIMMER <2014Z> : Clicked on "TI8/DL4MO" at 14012.9" TRX-Manager uses this feature to populate callsigns and frequencies. This way of use is OK with an external fixed LO SDR receiver or an external wideband SDR Receiver.

Limitations

The Telnet link may also be used with a IF adapter (like LP-Pan) but with limited functionalities. You can see CW frames on CWSkimmer and click to set a frequency however, relative position of "spots" in CW skimmer are not properly updated while you change the frequency from TRX-Manager or your rig.

OmniRig setup

From the Setup dialog, you must configure TRX-Manager for OmniRig. The drawback is that OmniRig has limited CAT functionalities.

Tip

OmniRig is the recommended link between CWSkimmer and third party programs by Alex VE3NEA.

See also

- Alex VE3NEA Web site
- Omnirig (Other brands)

Synchro port

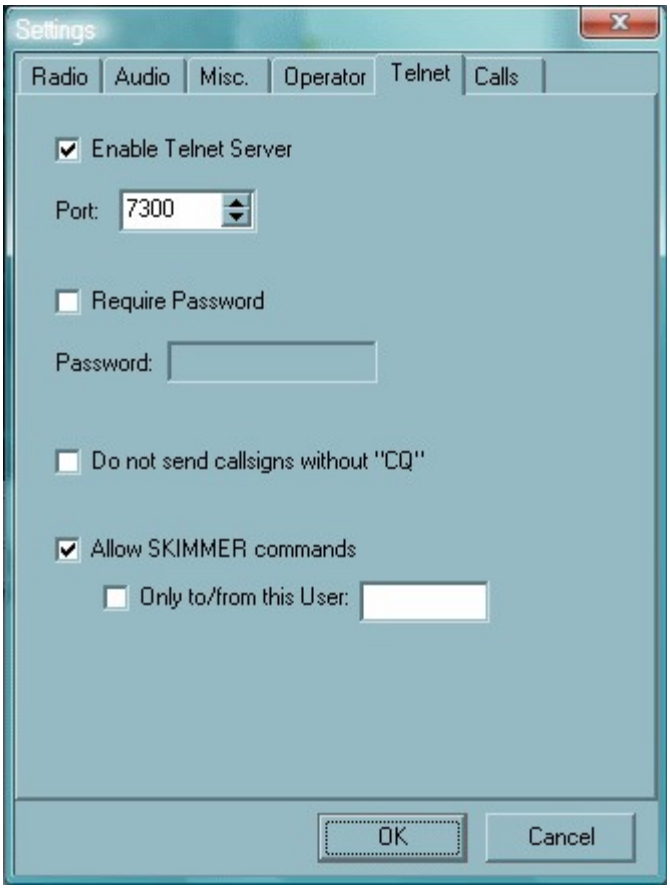
You use the TRX-Manager's synchro port function along with a port mapping software or a null modem cable and two free serial ports...

Setting up CW Skimmer (for a Telnet link)

Generally two cases are possible:

1. You use a SDR receiver with a fixed central frequency: under the **Radio** tab, please choose **SOFTROCK** or **3kHz Radio** option (or any external SDR) , fill in the central frequency (**LO Frequency**) and the **Pitch** . Some adjustements of **LO** frequency may be required to synchronize the programs.
2. You use a panoramic adapter centered on the transceiver's local IF Frequency (typical setup for a K3 + LP-Pan): under the Radio tab, please choose **SOFTROCK-IF** option and fill in **Pitch** and **Offset** with the correct values. Eventually you need to adjust the **Offset** parameter under TRX-Manager's Preferences to synchronize frequencies between TRX-Manager and CW Skimmer (however 0 is OK in most cases). Under the **Misc** tab, UNCHECK **Decode only in the CW Segment** in order to allow CW Decoding for "relative" frequencies.

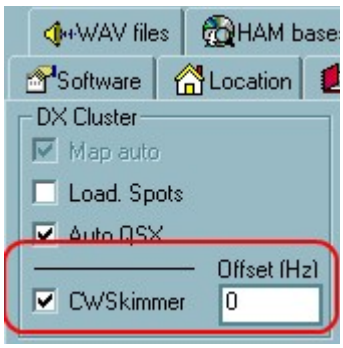
Now, from CW Skimmer's **Telnet** tab, configure CW Skimmer to enable the built-in **Telnet server** and to allow **Skimmer commands**. Please keep **7300** as Telnet port.



CW Skimmer's settings

Setting up TRX-Manager

Few settings are required since you connect CW Skimmer like any DX Cluster server from the Terminal (Telnet) interface. Just check **CW Skimmer** under Preferences/Terminal and fill in the desired **Offset (in Hz)** between TRX-Manager and CW Skimmer (Offfset can be used to compensate a **shift** between CW Skimmer and the real frequency).

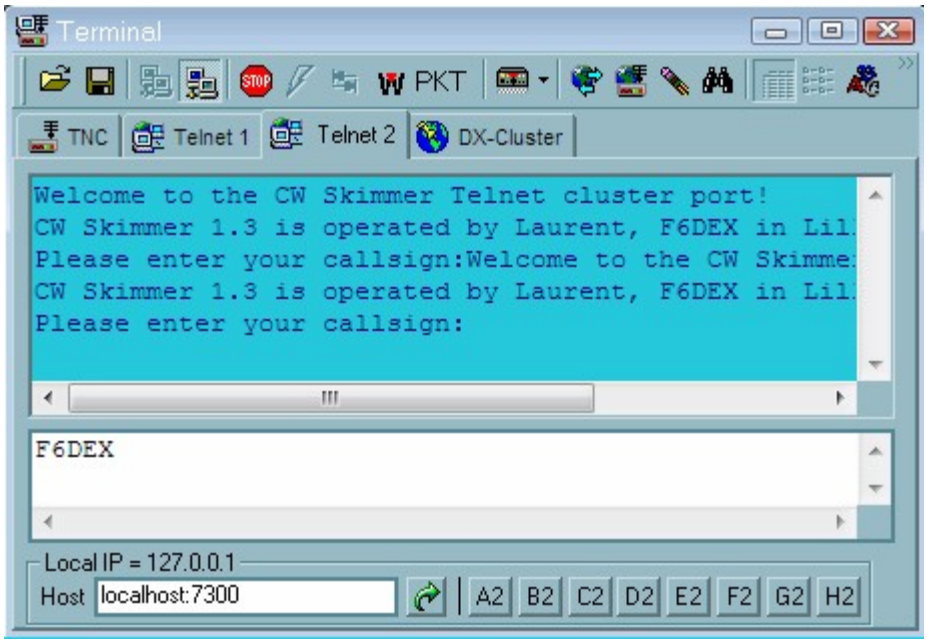


TRX-Manager's settings

Using TRX-Manager and CW Skimmer together (Telnet Link)

> ***Note***
>
> *Please launch TRX-Manager BEFORE CW Skimmer (to prevent CW Skimmer from opening the serial port).*

Please open the TRX-Manager's Terminal and under **Telnet 1** or **Telnet 2**, connect CW Skimmer. In a local network, **Host** is always **localhost:7300**



Connecting CW Skimmer

Now TRX-Manager populates CW Skimmer's Spots (like other spots) ; if you set CW Skimmer on a new frequency, TRX-Manager populates the callsign and set up your transceiver in synchro with CW Skimmer.

Possible problems

- if you note a shift between TRX-Manager and CW Skimmer, please adjust the **Offset** (Hz) parameter under Preferences/Terminal until both programs are synchronized. If frequencies are reversed, swap **I/Q** channels under CW Skimmer's **Audio** tab.
- relative positions of Spots may be shifted between TRX-manager and CWSkimmer with **Softrock-IF** setup.

Digital Modes

Interface with Fldigi

Fldigi is a Digital modem program for Linux, Free-BSD, OS X, Windows XP, NT, W2K, Vista and Win7/8... TRX-Manager interfaces with Fldigi using the XML RPC protocol (via Internet/Ethernet).

> ***Note***
>
> *In principle, this type of interface does not require that both programs are running on the same computer. However, if synchronizing Fldigi with TRX-Manager is still possible in a local network (with a noticeable latency), this way of use is not recommended over the Internet.*

Installing Fldigi

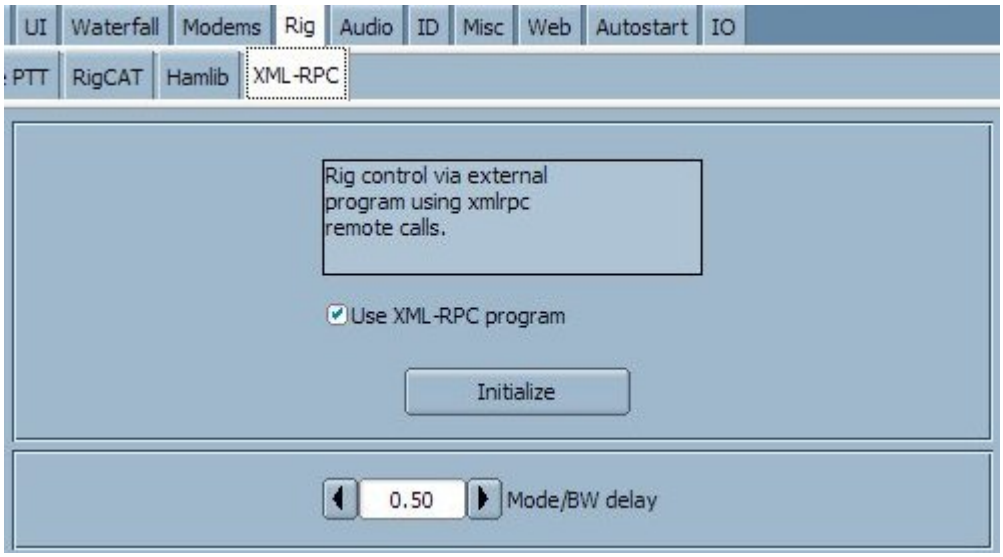
This documentation does not describe how to install and operate Fldigi. Browsing the following sites is recommended:

- Download: http://www.w1hkj.com/Fldigi.html
- Documentation (beginners): http://www.w1hkj.com/beginners.html
- Documentation (Users Manual): http://www.w1hkj.com/FldigiHelp-3.22/index.html

TRX-Manager has been written for the 3.22.08 version of Fldigi.

Setting up Fldigi

To set up Fldigi for operating with TRX-manager, you just have to check the **XML-RPC** option under the **Rig/XML-RPC tab** of the Fldigi's configuration dialog. You have to click The **Initialize** button the first time you set up Fldigi.

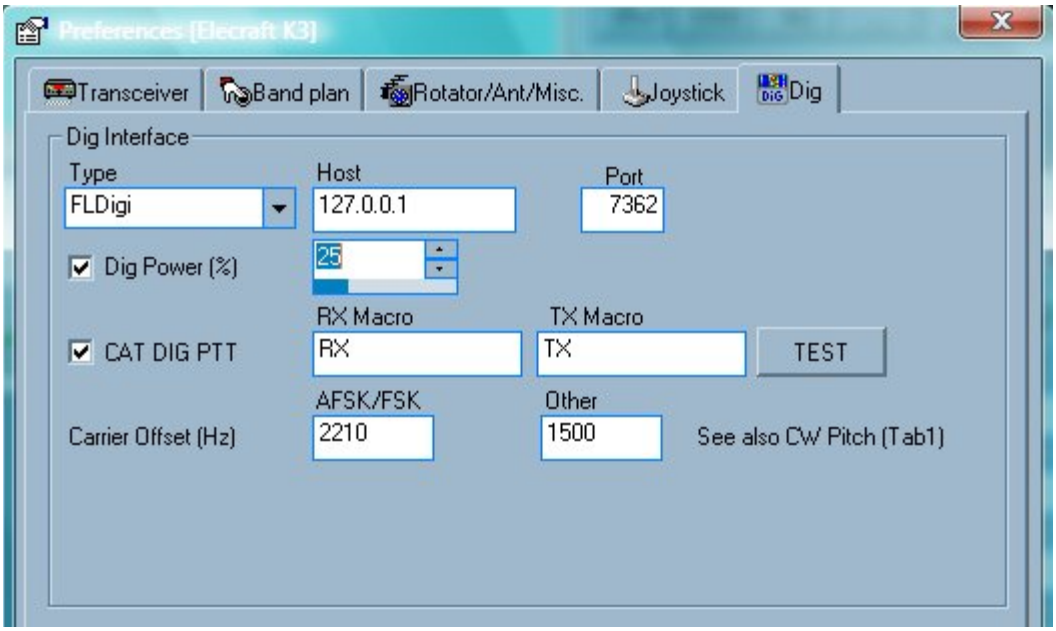


Fldigi's configuration dialog

Do no configure any other Rig or PTT control mode.

Setting up TRX-manager

You set up TRX-Manager for Fldigi from the Transceiver/Preferences dialog under the **DIG** tab.



TRX-Manager's settings

Settings are:

- **Type**: Fldigi
- **Host**: 127.0.0.1 is the default if you use Fldigi on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which Fldigi is installed
- **Port**: 7362 is the default. An Fldigi's command line allows using an other IP port.
- **Dig Power**: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power (default power by band or **Max power** of the transceiver).
- **CAT DIG PTT**: you can indicate specific CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: RX TX1)
- **Carrier offset**: you indicate the default carrier offset for FSK or AFSK (default 2210Hz) and the other modes (default 1500Hz). Generally, the carrier offset is the center frequency of the bandwidth of your transceiver for the data mode. If you use the LSB mode (AFSK), the carrier Offset is not very important provided the carrier frequency is within your passband.

Note

*The **RTTY/PSK offsets** indicated in the first Transceiver tab are NOT used by the TRX-Manager/Fldigi interface. They are only used to calculate the correct frequency of a DX-Spot in data-mode.*

*The **CW pitch** indicated in the Transceiver tab is used by the TRX-Manager/Fldigi interface to calculate the carrier frequency.*

Interfacing TRX-Manager and Fldigi

Once both programs are set up, you can run TRX-manager and Fldigi simultaneously.

If you run TRX-Manager and Fldigi on the same computer (Host=127.0.0.1), you can start/stop TRX-Manager and Fldigi in any order.

Warnings

You may have to set up your **firewall** to not block TRX-Manager and Fldigi for the specified port (even if you use both programs on the same computer).

If Fldigi and TRX-manager are not installed on the same computer (Host address different from 127.0.0.1):

- you may have to set up your router or your network accordingly
- you must start Fldigi **BEFORE** TRX-Manager, otherwise, and error will occur and TRX-Manager will disables the Fldigi interface (you just have to launch it again from the Preferences/Transceiver/DIG by selecting Fldigi as DIG interface).

Important notes

*The **Monitoring** must be running during the operation of Fldigi. Otherwise Fldigi is not set with the right sideband and mode. Keep TRX-Manager maximized: if TRX-Manager is minimized, the refresh rate is reduced.*

The Fldigi interface is only supported with the main transceiver set as Operating transceiver. It is not supported in Remote mode.

TRX-manager communicates with Fldigi and set the current frequency, spot and select the correct sideband. As soon as you change the frequency from your rig or TRX-manager, the carrier offset is reinitialized.

By default the LSB mode is recommended in RTTY and USB in PSK. You can use the Fldigi user-interface to change the mode, however, if you use one of the data mode of your transceiver, you must select it from TRX-manager. From Fldigi, the **REV** mode allows selecting **CW-R** or **FSK-R**.

When you start Fldigi, the RX Tone is always set to the default Tone for **AFSK** or **Other** (according to the Preferences and the selected mode). You can click the **Normalize** button of the **Transceiver** menu to normalize the Tone and move the frequency of your transceiver accordingly (**NOR** is equivalent to the Fldigi's **QSY** function).

It is highly recommended you only use the Fldigi's user-interface to control the **RX/TX** state. Fldigi communicates with TRX-manager which controls your transceiver using the PTT mode you have defined from Setup TRX1..4 or the **DIG CAT Commands** of the DIG Preferences. A slight delay is possible depending on your transceiver ; this is why a **PTT delay** is adjustable from Fldigi.

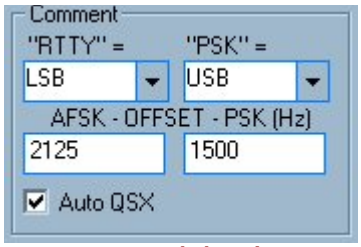
Maximizing TRX-Manager from Fldigi

It may be sometime difficult to maximize TRX-Manager from the taskbar while Fldigi is running. This is caused by the communication loop running even if the application is minimized. You can retry several time or just type **MAX** or **+** in the call field from Fldigi to maximize TRX-Manager!

DX Spotting

TRX-Manager can detect a spot with RTTY PSK31 PSK63... in the comment field and set the digital mode and offset accordingly. To enable this function you must select under Preferences/Software/DX Spots :

- a mode for RTTY : LSB USB FSK FSK-R FM and PSK : LSB USB DATA FM
- an offset for AFSK (Mark frequency= 2125Hz by default) and PSK (1500Hz by default)



recommended settings

Notes

- ***Offset** in FSK, Data or FM mode is supposed to be zero. Offset is only used in SSB to calculate the carrier frequency=+/-Offset(+85 in FSK),*
- *If you select **Plan**, TRX-Manager does nothing else than setting the mode according to the band plan.*

Logging a QSO

You can use the Fldigi user interface to fill in the various fields required for logging and log this QSO into the TRX-Manager's database as follow

- toggle the **DIG** button of the Logbook ON. This engages logging using the Fldigi's fields,
- click the Spot button of the logbook. TRX-Manager reads the Fldigi's log fields and fills in the corresponding fields of the logbook. You can complete the log with the necessary information using a CD-Rom or Internet. Press the **Log** button or **Ctrl-S** or **F12** to save the QSO**.**

See also: Logging a new QSO

Notes

Il you log a QSO from Fldigi (by clicking the Save button), it is not transferred into the TRX-Manager's logbook.

As soon as you introduce a callsign into Fldigi, it becomes the TRX-Manager's current spot.

The following fields are transferred from Fldigi to TRX-Manager :

- *Callsign*
- *Mark frequency (RTTY), carrier frequency (other modes)*
- *Modem mode*
- *RSI In/Out*
- *QTH State Province*
- *Locator*
- *Notes*
- *Exchange (contest mode)*
- *Serial number (contest mode)*

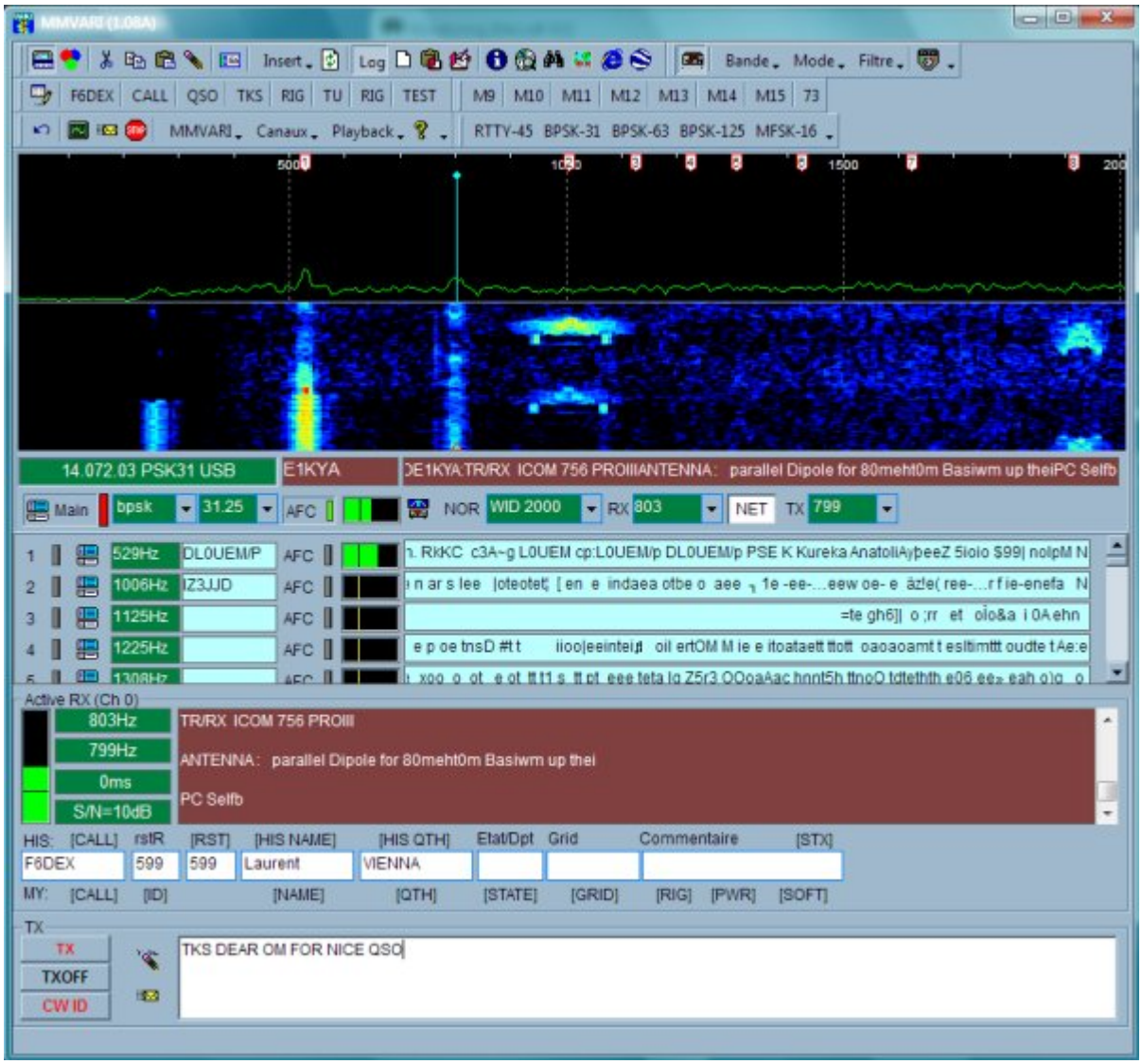
Normalizing the Tone

From the **Transceiver**'s menu, the Normalize function helps to center the current station

MMVARI (Operating)

The MMVARI Module is based on the MMVARI Engine by Makoto Mori, JE3HHT. It supports digital modes such as RTTY (Baudot), PSK (BPSK MFSK QPSK), GMSK... and can deal with the Varicode optimized for MBCS (however MBCS is not supported by TRX-Manager). The MMVARI engine is included in the distribution package for TRX-Manager and you don't need to install MMVARI on your computer.

You launch the MMVARI module from the **External/MMVARI** submenu. While the most of parameters and settings are about the same than for the MMVARI stand alone application, the user-interface is specific to TRX-Manager.



See also

- MMVARI Settings

Getting started (RX)

Important notes

*The **Monitoring** must be running during the operation of MMVARI. Otherwise MMVARI is not set with the right sideband and mode. Keep TRX-Manager maximized: if TRX-Manager is minimized, the refresh rate is reduced.*

*The MMVARI engine is fully usable in **demo** mode (transceiver=demo, unregistered version) whatever the session and its duration. Don't forget to adjust the mode of the demo transceiver accordingly in order to have the right sideband selected.*

The MMVARI modules is only supported with the main transceiver set as Operating transceiver. It is not supported in Remote mode.

The MMVARI windows being large it opens outside of the main window and minimizes in the task bar. To keep MMVARI on top, please engage the **OnTop** function of the toolbars.

You first have to set up the sound cards from the **MMVARI/Sound cards** submenu (or from the **Preferences/Transceiver DIG** tab). Eventually, you have to adjust the levels for the Record/Play channels from the Windows Sound Control Panel (**MMVARI/Control (Sound)** submenu).

Provided your sound card is correctly connected to the audio output of your transceiver, MMVARI is now usable in RX. Later you may adjust the various settings according to your Preferences and your operating practices.

When you start MMVARI, the RX Tone is always set to the default Tone for **AFSK** or **Other** (according to the Preferences and the selected mode). By **L** -Clicking the display (FFT or Waterfall), you set the Tone of the main channel to a new value. You click the **NOR** button to normalize the Tone and move the frequency of your transceiver accordingly.

AFC (automatic frequency control) is ON by default for the main channel (recommended).

If the **Mode** and **Speed** (and sideband) for the main channel are correctly set, the decoded text appears in the Window.

You can adjust the **WIDTH** of the FFT window to pre-set values. The FFT window adjusts itself so that the main channel is always visible (and if possible, centered).

It is generally easier to align the signal is SSB than with the narrow filtering of a Digital mode. If you use the Mode menu of the MMVARI module and toggle LSB/USB <-> FSK, TRX-manager shifts the frequency to preserve the current alignement. Shift is calculated according to the Carrier Offset values of the Preferences/DIG tab (in FSK: Carrier Offset=Mark+85). This function does not work with other mode or data mode or if you change the mode from the transceiver or the Monitoring.

Available modes in MMVARI

The current version of MMVARI (1.08a) supports the following modes:

- *GMSK MBCS experiment (HF)*
- *FSK MBCS experiment (V/UHF) - NOT Baudot !*
- *FSK-W MBCS experiment (V/UHF, satellite) - Not Baudot*
- *BPSK MBCS experiment (HF) (USB)*
- *bpsk Standard bpsk (USB)*
- *rtty-L BAUDOT (LSB)*
- *rtty-U BAUDOT (USB)*
- *mfsk-L MFSK (LSB)*
- *mfsk-U MFSK (USB)*
- *qpsk-L Standard qpsk (LSB)*
- *qpsk-U Standard qpsk (USB)*

*Generally, to run PSK, you select **bpsk** and **USB**. To run RTTY, you select **rtty-L** and **LSB** (AFSK).*

For more information about the modes in MMVARI please see the MMVARI Website (HAMSoft).

Maximizing TRX-Manager from the MMVARI window

It may be sometime difficult to maximize the MMVARI window and/or the TRX-Manager window minimized in the task bar. This is caused by the communication loop which slightly reduces interactivity. If this happens, you can use (respectively) the **TRX** toggle (Maximize) of the MMVARI window or the **External/MMVARI** submenu of TRX-Manager.

Transmitting

First it is required to set the transmit audio level to avoid any degradation of your transmission and poor performance. You can adjust the **digital level** from TRX-Manager (Preferences/Transceiver DIG Tab, TX settings) and if this is not enough you have to adjust the output level from the Windows sound control panel (**MMVARI/Control Panel** submenu) and/or the MIC/Data gain of your transceiver. Overloading the sound card may cause malfunctions and sometime no audio out...

A good practice is to normalize the Tone and your transceiver before transmitting using the **NOR** button (mandatory in true FSK or true PSK modes). If **NET** is checked, the TX tone follows the RX tone according to the selected mode. However, AFC may cause the RX Tone fluctuating: consequently, it is possible to adjust the TX Tone to a preset value in that case by unchecking NET (this supposes that the RX Tone is normalized).

You compose your message from the **TX** Text Box (at the bottom of the window) and then click **TX** to send and **TX OFF** to toggle back to RX. If **TX** is engaged, you can type the text and it is sent immediately. MMVARI stays in iddle mode until you click **TX OFF**.

An alternative is to use the **Send** button (**Ctrl-K**). This button allows an immediate transmission of the text and toggles back to RX automatically at the end of the transmission.

At the end of the transmission, you can send a CW ID using the **CW ID** button.

If necessary the **STOP** button stops any transmission immediately.

The **Tune** buton (RX/TX Toggle) sends a single tone for tuning.

Particular cases : Kenwood

If you use a Kenwood transceiver, when transmiting audio through the ACC port or the USB port, it is mandatory to set up MMVARI to use specific PTT CAT commands (CAT DIG PTT checked, RX Macro=RX, TX Macro=TX1).

The TX1 command mutes the microphone and opens the audio input of the ACC port while the normal PTT CAT command mutes the ACC port and opens the microphone input!

True FSK/PSK keying with a K3 or KX3

TRX-Manager takes advantage of the K3/KX3 true FSK/PSK keying capability (via CAT commands) if the **K3/KX3 FSK/PSK** option is selected (Preferences/DIG). You only need a cable between the Line output of the transceiver to the MIC/Line input of the computer (absolutely no other wiring is required)... Provided FSK or PSK is selected from the K3/KX3 and rtty-L or bpsk 31/63 is selected from MMVARI (respectively), keying is generated by the transceiver. Operation is similar (to MMVARI) but PTT keying is done by the transceiver in break-in mode.

In that case, please make sure to normalize your tonality before transmitting (and to CONFIG: FSK POL=1) by using correct Offset values matching the Pitch of the Transceiver : e.g. if 1445Hz is selected as Mark frequency in FSK (K3/KX3), 1525Hz must be defined as Carrier Offset. In PSK, the recommended Pitch/Offset is 1010Hz.

In true PSK or true FSK modes, the transmission is supposed to be related to the main channel only.

It is generally easier to align the signal in LSB (rtty-L) or USB (bpsk) than with the narrow filters of the FSK or PSK modes. Once the signal is aligned and decoded, use the **Mode** menu of the MMVARI window (and only this one) to toggle to FSK or PSK: the signal's alignement will be preserved and normalized.

Unfortunatley, with the current firmware of the K3/KX3, it is not possible to select the speed in PSK (31/63). You must use the DATA MD button and the VFO A to select 31 or 63.

Protection of the Final of your transceiver

If **DIG power** option is selected in the Preferences, TRX-Manager limits the RF power in DIGI mode to a fraction (%) of the Preferences Power by band (if Auto-settings is selected in Preferences/Transceiver/Misc tab) or to a fraction of the maximum power of your transceiver.

The sub Channels

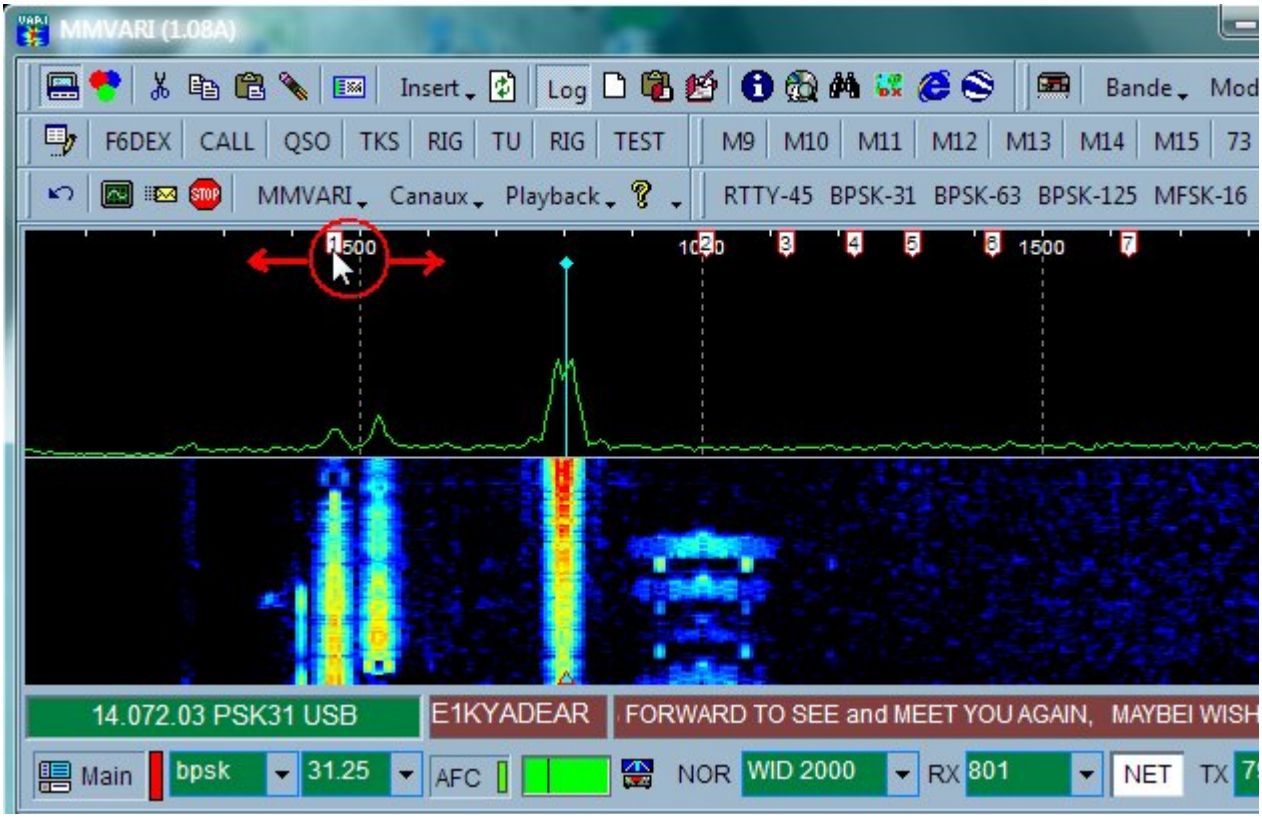
MMVARI can decode up to 24 sub channels simultaneously. You can select the desired number of sub channels from the **Channels** menu. However 8 sub channels is a good compromized while 24 can be confusing and consumes more CPU time and memory.

By default if **ALL = MAIN** is checked (**Channels** menu), the sub channels follow the mode of the main channel. If this option is NOT checked, you can select different modes and speeds for any sub channel.

At the beginning, it is recommended you keep **AFC** NOT checked for the sub channels: if AFC is selected some adjacent channels may quickly converge to the same frequency... However, once a channel is synchronized, you can engage AFC for this channel only. You can set AFC ON/OFF for all the channels simultaneously using the **Channels/AFC ON /OFF** submenu.

You can browse the different channels using the vertical scroll bar of the browser and make a sub channel **Active** by clicking its button (**1-24**). Once a channel is active, the decoded text appears in the **Active RX** frame and you can engage a QSO (the TX Tone always follows the RX Tone of a subchannel).

You can also swap the main channel and a sub channel by clicking the **Swap** button : the main channel becomes the Active channel in that case.



To set the tone of a sub channel, drag the label or set this channel active and R-Click the waterfall.

You can move a channel by dragging its label. If a sub channel is active, you can **R**-Click the Waterfall to set the position (Tone) of this (active) subchannel (remember that a **L**-Click sets the Tone of the main channel only).

If necessary you can re-order the channels (by Tone) using the **Channels/Order** submenu and/or **Reset** all the channels to the default Tones at startup.

Advanced operation

Display, BPF (MMVARI menu)

By default MMVARI displays a FFT of the band pass at the top of the window and a Waterfall just below. From the MMVARI/FFT submenu you can change the type of graphic to display instead of the FFT: Sync, Signal. You can not change the Waterfall.

The FFT Scale and the Frequency scale can be adjusted. The Square amplitude option (FFT Scale) is recommended in most of the cases unless your noise level is very low. If **RIG (RF)** is selected in the Frequency Scale submenu, MMVARI displays the true frequency vs the Tone if **Tone (AF)** is selected.

The **BPF** submenu allows selecting a Wide (1000Hz)/Medium(500Hz)/Narrow(250) or Ultra-Narrow(100Hz) audio filter around the signal. However this selection does not have a sensible effect because the filter is in the sound card and totally outside of the AGC loop of the transceiver.

Using macros

Different macro commands are available from the **Macros** menu (macros are similar to those used in the CW Keyer module) or from the **Log** frame. Just select the desired macro to insert the corresponding information in your text.

If **Quick macros** is enabled in the Macros menu, **Quick Macros** (@ µ * % ! ...) can be used and speed up the transmission. You have to disable this option if you want to send these characters!

Related Topics

- See also CW Macros for more information about the Macros

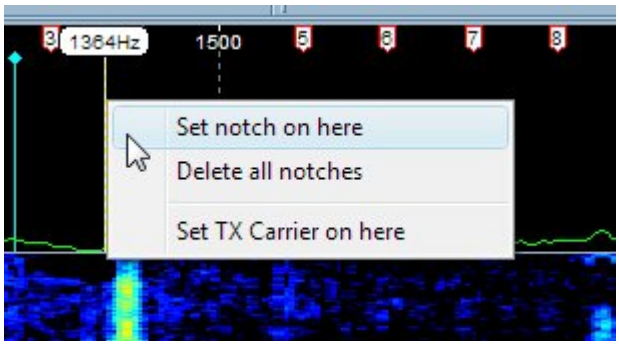
Preset messages

You can define up to 16 messages. First you click the **Edit** button to engage the Message editing mode and click the desired message button. This action opens the Edit frame at the bottom of the window. From this edit frame, you define the message's caption and you can compose the message by using (if required) the **Macros** menu to insert macros and/or the Cut/Paste/Copy functions. You save the message by clicking the **Save** button . The captions of the messages are limited to 6 characters. The messages are limited to 512 characters.

To send a preset message, click the corresponding button **M1-16** (or **F1 to F8** keys). The transmission stops at the end of the message (if **TX** is not engaged, otherwise, it is added to the text being transmitted).

Notches

MMVARI allows creating notches in the band pass : **R** -Click the FFT to create a notch. The same context menu allows deleting all the notches.



An R-Click on the FFT opens a context menu

DX Spotting

TRX-Manager can detect a spot with RTTY PSK31 PSK63... in the comment field and set the digital mode and offset accordingly. To enable this function you must select under Preferences/Software/DX Spots :

- a mode for **RTTY** : **LSB** USB FSK FSK-R FM and **PSK** : LSB **USB** DATA FM (recommended modes)
- an offset for AFSK (= Mark frequency: 2125Hz by default) and PSK (1500Hz by default)

recommended settings with most transceivers

Notes

- *Offset in FSK, Data or FM mode is supposed to be zero. Offset is only used in SSB or AFSK to calculate the Carrier Frequency=+/-Offset(+/-85 in FSK),*
- *If you select Plan, TRX-Manager does nothing else than setting the mode according to the band plan.*

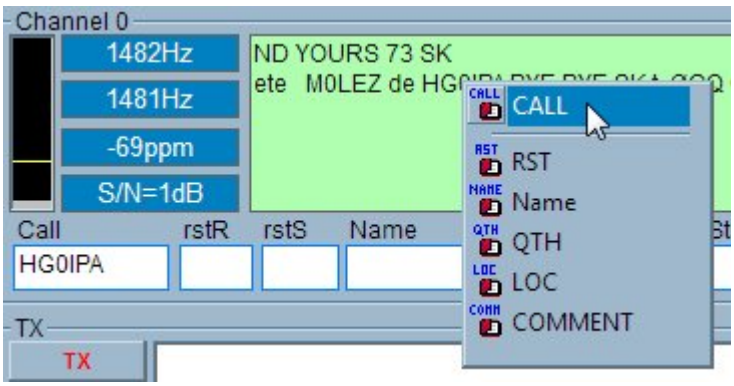
Logging a QSO

The interface displays the logbook's most often used fields (The **Log** frame is switchable using the **Log** 's toolbar button).

TRX-Manager automatically populates and memorizes the most used fields (Callsign, Name, QTH, RST, Loc...) for all the channels :

- If the fields are empty (if necessary use the **Clear** button to clear the fields), they are filled in (in real-time) with the last information decoded for the active channel,
- You may also use the **Refresh** button to refresh the fields with the last decoded values.

However, this algorithm is not infaillible and you can select the strings manually with an **R**-Click (if necessary disable the continuous scrolling using the **Scrolling** button).



A Right click opens the LOG (context) menu

Press the **Log** button (**CTRL-S** or **F12**) to log and save the QSO or the **Paste To Log** button (**Ctrl-P**) to log without saving the QSO in order to let you to complete all fields from the Logbook.

An alternative is to use the **SPOT** function of the Logbook. MMVARI must be selected as **Digital Interface** (Preferences) :

- toggle the **DIG** button of the Logbook ON. This engages logging using the MMVARI's fields,
- click the Spot button of the logbook. TRX-Manager reads the MMVARI's log fields and fills in the corresponding fields of the logbook. You can complete the log with the necessary information using a CD-Rom or Internet.
- from the Logbook, press the **Log** button or **Ctrl-S** or **F12** to save the QSO **.**

Related Topic

- Logging a new QSO

Not enough digital modes ?

The MMVARI engine provides the most current HAM Digital modes. If you need more digital modes, you can run the Fldigi interface simultaneously with the MMVARI engine. However, you must select Fldigi as **DIG interface** to activate the link between TRX-Manager and Fldigi. You can log either from MMVARI using the MMVARI's Logging functions or retrieve the Fldigi's logging information using the **SPOT** button of the logbook (see Fldigi).

Digital mode Settings

You access the MMVARI or Fldigi settings from the **Preferences/Transceiver** dialog **DIG** tab. The Preferences, layout, sound cards and other current settings are specific to each Transceiver (1-4).

General settings (DIG Interface)

- **DIG Interface** : You select the digital software (MMVARI or Fldigi). With MMVARI, this option is not mandatory because MMVARI is embedded in TRX-Manager. However, it is mandatory to activate the link with **Fldigi**. It also affects the **SPOT** function of the Logbook : when DIG is checked (Logbook) the Log fields are associated with the selected digital software (MMVARI or Fldigi).
- **Dig Power**: Digital power. If this option is checked, TRX-Manager limits RF Power to a fraction of the reference power (default power by band or **Max power** of the transceiver).
- **CAT DIG PTT**: You can specify CAT commands for RX and TX (macro-commands) as required by some transceivers in data mode when the ACC port or the USB port is in use (Kenwood: **RX, TX1**). If selected, this function replaces the PTT keying function of TRX-Manager.
- **Carrier offset**: Default carrier offsets for FSK or AFSK (default 2210Hz) and the other modes (default 1500Hz). Generally, the carrier offset is the center frequency of the bandwidth of your transceiver for the datamode. If you use the LSB mode (AFSK), the carrier Offset is not very important provided the carrier frequency is within your passband. If you use the true FSK or PSK mode of your transceiver, make sure the carrier offset is matching the Pitch frequency of the transceiver (in FSK, Carrier Offset = Pitch+RTTYShift/2).

> ***Note***
>
> *The **RTTY/PSK offset** indicated in the Preferences/Software/DX Spots tab is NOT used in digital mode by Fldigi or MMVARI. It is only used to calculate the correct frequency of a digital DX-Spot in SSB.*

Fldigi Settings

- **Host**: 127.0.0.1 is the default if you use Fldigi on the same computer than TRX-Manager. Otherwise, you indicate the IP Address of the computer on which Fldigi is installed. Using Fldigi via Internet is NOT recommended due to timing issues.
- **Port**: 7362 is the default. An Fldigi's command line allows using an other IP port.

MMVARI Settings

Sound card

- **Sound card:** select your sound cards (Input=RX, Output=TX). The Sound card indexes may change depending on the number of sound cards connected to your computer. Consequently, you may have to set again the sound cards during a session.In thatcase it may be faster to select the sound cards from the MMVARI window (MMVARI/Soundcard submenu).
- **Sampling**: RX sampling frequency (Hz). 11025 is the recommended default. If your sound card has been calibrated, you can type the actual value (i.e 10098).
- **TX** : TX sampling frequency offset with respect to the RX sampling frequency. If your sound card has been calibrated, you can type the actual value (i.e. 74.25)
- **RX TX Buttons**: these buttons give access to the RX and TX settings respectively

RX Settings

- **HPC:** If Checked, the high-pass filter is engaged for RX. Although this is unnecessary for most soundcards, it sometimes is effective for eliminating hum in the input audio.
- **AFC** (Width): Specifies the frequency sweeping width (Hz) for the AFC. This value is applied to all the RX channels.
- **AFC** (Level): Specifies the S/N level (dB) for the wide AFC. In case AFC Width is less than or equal to 50Hz (default), the wide AFC does not function and AFC Level is ignored. This value is applied to all the RX channels.
- **ATC/PPM**: If selected, Automatic Timing Control (ATC) is turned on. In the rtty mode, ATC is always off irrespective of this option. In the mfsk mode, ATC is always on irrespective of this option.
- **ATC(Offset):** This value specifies the adjustment offset in ppm for the RX sampling frequency. If ATC/PPM is checked, MMVARI automatically manages the ATC Offset.
- **Handling center frequency**: If checked, the center frequency is used for the carrier frequency. If NOT checked, the base tone frequency is used for the carrier frequency (only affects the display in MMVARI).
- **Use metric level squelch**: If checked, mfsk metric level is used for the squelch. If NOT checked, the S/N level is used for the squelch. This property is effective only for **mfsk**.
- **Enable sound playback**: If checked, the sound playback function is enabled. To start the playback function, use the Plaback menu in MMVARI. The sound playback function stores the PCM sound data for the latest 60 seconds in

the MMVARI control. In case of the 11025Hz sampling frequency, it uses about 1.3MB memory space for the sound playback.

- **RTTY Demodulator** : select **IIR**= Infinite Impulse response (recommended default) or **FFT**=Fast Fourrier Transform.
- **Width(D)**: default bandwidth at startup
- **Squelch(dB)**: Squelch level for decoding. 3dB is the default in MMVARI, however, 6dB is sometime preferable. This value is applied to all the RX channels.
- **FIFO**: Depth of the RX FIFO (default=12)
- **Custom RTTY Shift**: User defined RTTY Shift (Hz) to select from the MMVARI/RTTY submenu (< 450Hz)

TX Settings

- **Port (PTT/FSK)**: Specifies the COM PORT used by the MMVARI module (not under the control TRX-Manager) for PTT switching and FSK Keying. EXTFSK is required if you use an USB serial adapter due to timing issues. Whatever your choice, TRX-manager always uses its own PTT keying functions (this option does NOT disable the keying function in TRX-Manager). **EXTFSK** requires an external plugin to download from the MMVARI/MMTTY (HAMSOFT by VE5KC) web site.
- **RTTY=FSK**: If checked, MMVARI does the FSK keying at the selected COM port (only in RTTY). MMVARI generates the FSK timing and keys **TxD**. When Port=EXTFSK, MMVARI sends the character data to the EXTFSK plugin (EXTFSK generates the FSK timing). MMVARI and EXTFSK use Windows' multimedia timer so that about 1msec jitter is expected. The baud rate is fixed to 45 irrespective of the selected RTTY speed.
- **PTT Exclusive lock**: If checked, MMVARI exclusively uses the PTT port specified. If NOT checked, MMVARI opens the PTT port only during TX.
- **INV FSK**: If checked, MMVARI reverses the polarity of the FSK signal at the specified com port. However, if Port=EXTFSK, this option is ignored.
- **External Loopback**: (full duplex). If checked, the sound loopback mode is set to External. This is used for adjusting the TX timing or for satellite communication (requires an external wiring).
- **K3/KX3 FSK/PSK** (Elecraft only): If checked keying is generated by the K3/KX3 (by CAT commands)
- **Single Tone**: If checked, MMVARI generates a single tone at the end of transmission.
- **Diddle (RTTY)** : Specifies the diddle code in the RTTY idle state. **LTR** or **BRK**
- **FIFO**: Depth of the TX FIFO (default=6).
- **CW ID**: text for the CW ID message sent en CW. The following characters can be used for special CW codes: @AS :SK(VA) ;AR =BT]KN
- **CW Speed** (wpm): Specifies the CW ID speed
- **Digital Output Level**: Specifies the digital output level (AFSK Audio Level) in the range of 0 to 32767. The default is 16384. This parameter must be used in conjunction with the output level of the sound card (Sound Control Panel) and the MIC gain (or DATA gain) of your transceiver.

Awards

DXCC Window

TRX-Manager searches for geographical and DXCC information from the prefix of a station. This function is activated from the **Display/DXCC info... (F7)** sub menu or the button of the main toolbar.

The DXCC window :

- displays **distances** to (from) the station and azimuth for a given prefix
- provides remote control of a rotator
- displays the status of your DXCC award for the current entity
- displays HF Propagation predictions

See also

- Current Spot

You can type the callsign in the corresponding text box of the DXCC window, however, in most cases TRX-Manager automatically populates this field with the current spot, the current logging information... As soon as a valid callsign is introduced, all information are updated.

Multiple entities for a given prefix

If there is more than one DXCC country for ONE prefix, a combo box appears and allows you to choose between the different DXCC entities. You only have to click one of the items to obtain the right information.

CQ and **ITU** zones as well as **Provinces** are resolved and displayed in the status bar of the program :

A word about the DXCC algorithm

TRX-Manager implements a Prefix database of all official ITU prefixes and, by default, does not support certain special callsign granted for DXPeditions or other events which would require frequent updates.

More about DXPeditions

In case of DXPeditions with specific callsigns you may use the Special Callsigns database.

TRX-Manager determines the country starting from the left character : it may be necessary to "force" a country by adding a valid identifier.

See also

- How to force the DXCC Code from the Logbook (see Updating DXCC codes).

Edition of the prefixes

DXCC Information is located in the **PREFIX.MDB** database. This database may be edited under MS Access 7 or - preferably - from the integrated editor.

The database contains two tables:

- a **PREFIX** table with all the possible prefixes (*),
- a **DXCC** table with all the DXCC Countries

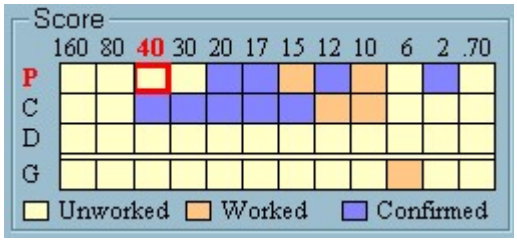
About Prefix.mdb

*The prefix database (**prefix.mdb**) results from own work of the author and is derived for a large part from the DXAtlas's prefix database courtesy of Alex VE3NEA. The file "prefix.mdb" is released in the public domain and you may use it for any commercial or non-commercial purpose in the modified or non-modified form, provided that:*

1. *The source of the original dataset is clearly indicated (DXAtlas and TRX-Manager),*
2. *All derivative products are also released as public domain data.*

DXCC Award status

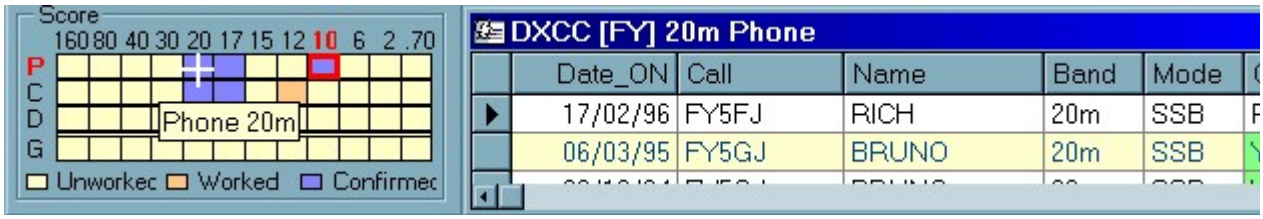
The ARRL DX Century Club award status for a given country may be displayed from the DXCC Window. This ability is only provided for QSOs with a valid DXCC country code (see updating the DXCC codes).



P=Phone C=CW D=Data
G= Status for GridSquare

The program displays the DXCC for the selected country in the form of squares color. The square corresponding to the current mode and bands is in evidence. In addition, the **G** row indicates if the 4 digits GridSquare has been worked/confirmed before.

A click in a colored square shows up the worked or confirmed QSOs for the specifc band and mode. Then and if necessary a click in a row edits the corresponding QSO in the Log.



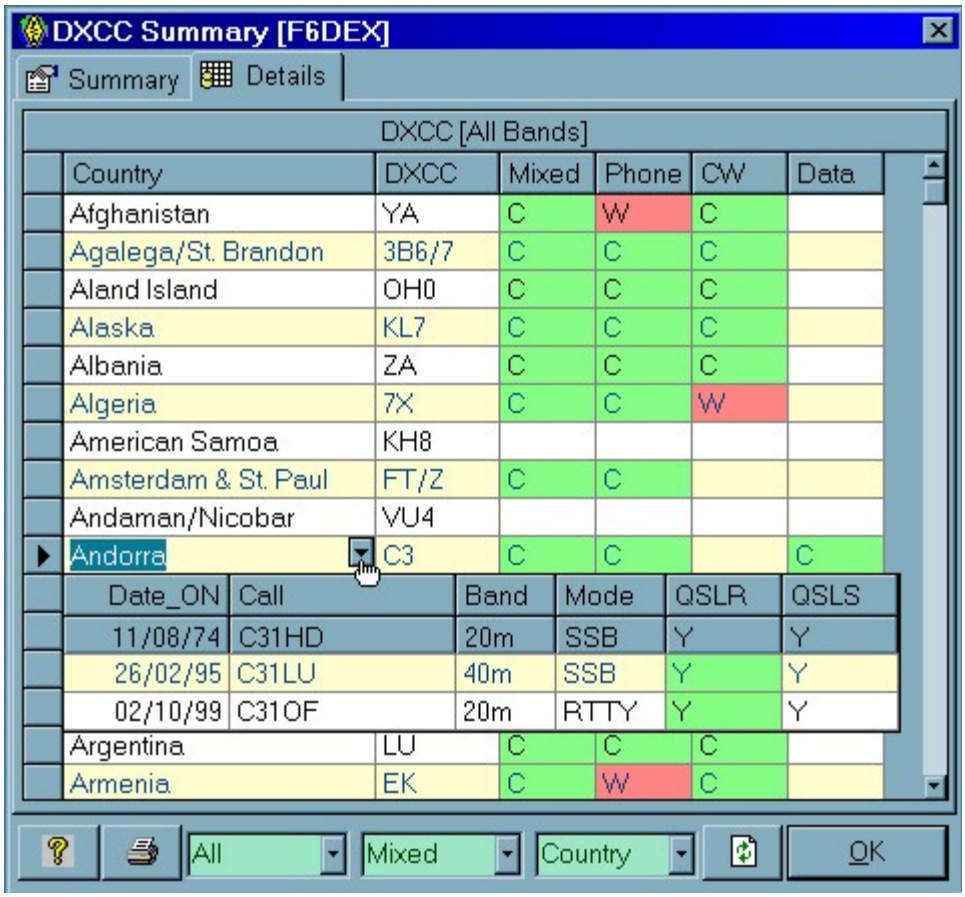
***Note** : QSO with **QSL_Sent = I** are ignored.*

DXCC Summary

A summary of your DXCC award may be calculated and displayed for all bands or a specific band from the **Display/Awards Summary/DXCC** submenu .

The report is calculated for the current entities and for the deleted entities: you real report is the sum of the both reports. However, the calculation of the **bandpoints** (Bands column) sums both curent and deleted entities.

The **Detail** tab displays the detail of the summary for each DXCC country. A click of a drop down button for a specific country shows up all the worked or confirmed QSOs for that country. The **Refresh** button allows you displaying and printing a customized report according to your selection for **Status**, **Mode** and **Sort order** (Country or Prefix).



Please see how to update the DXCC codes to understand the program's limitations.

More reports

This DXCC information has been conceived as a real-time help to DXing. A **summary** is provided, however for getting most comprehensive reports, you need to use the Logbook's Explorer.

Compatibility with the other logging programs

Each logging program implements its own algorithm to find the countries and to compute the DXCC score. In fact when you import or export your logbook there always remains some errors which are difficult to fix. To avoid these errors it is advisable to add an identifier in the doubtful cases. The use of the ADIF format during the transfers, provided that it is fully supported, completely avoids such errors.

Updating the DXCC codes

To calculate the DXCC Award status, TRX-Manager uses the **DXCC** field and not the country or the callsign fields.

That means this function is only working if your QSOs have been logged from TRX-Manager or imported from a log program (using the ADIF format) which fully support the DXCC country code (such as **LOGic**).

> ***Note***
>
> *DXCC codes lower than 0 are provisional (until the release of the official ARRL DXCC code) and are not exported.*

Updating a logbook (DXCC Update)

For imported QSOs, you have to update your database using the **Tools/DXCC Update** function.

The **DXCC Update**:

1. updates and reformates **CQZ** and **ITUZ** fields (with two digits : Zone 01 for Zone 1).
2. calculates **Bands** from Frequencies
3. update the country code from the callsign (if the country code is not imported)
4. updates the country names from the country code (if available)
5. update a blank or null QSL_Sent field with the field by default (Preferences QSLS)

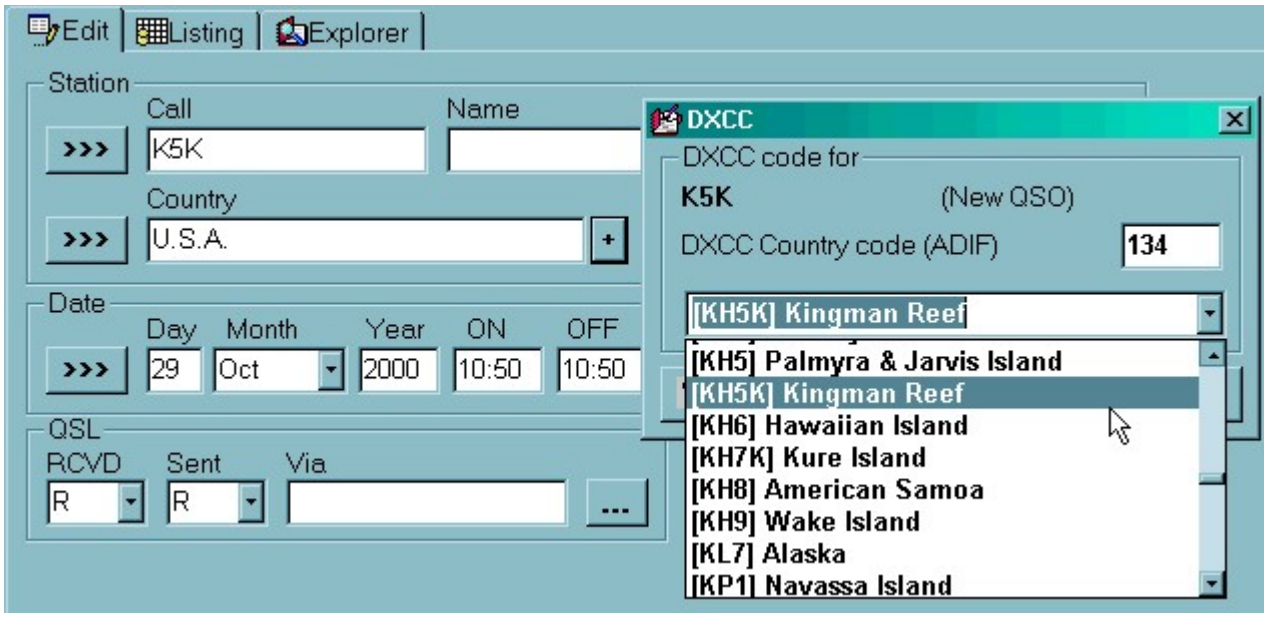
After this update is done, you may still have unrecognized countries because TRX-Manager can not resolve prefixes with multiple possibilities: in that case you have to manually enter the country code from the logbook window.

You also may have errors : in that case, you also have to manually update the log book by forcing the country with a slash : ex **1S/9M0C** for Spratly Is or by forcing the ARRL DXCC Country code (see below).

How to "force" a DXCC country

Logbook's **sorting** functions (under **Listing**) may be used to display unfilled **Countries** or null **ADIF** country codes.

Then, from the **Edit** tab, the [**+**] button or a right click on any QSO from the listing tab is used to open the **DXCC Code** dialog box. You may choose a valid country or enter a code for a deleted country:



Deleted countries

TRX-Manager is not able to distinguish QSOs worked with **deleted** countries from those worked with **active** countries. **All QSOs will be associated with an active country**.

However, you may fix that limitation by manually forcing the DXCC code (or ADIF code) and introduce the code of a deleted country.

See below ADIF codes for the deleted countries:

Code/Deleted countries

2 ABU AIL IS
8 ALDABRA
19 BAJO NUEVO
23 BLENHEIM REEF
25 BRITISH N. BORENO
26 BRITISH SOMALI
28 CANAL ZONE
30 CELEBE/MOLUCCA IS
39 COMOROS
42 DAMAO, DUI
44 DESROCHES
55 FARQUHAR
57 FRENCH EQ. AFRICAY
58 FRENCH INDO-CHINA
59 FRENCH WEST AFRICA
67 FRENCH INDIA
68 SAUDI/KUWAIT N.Z.
81 GERMANY(<1973)
85 BONAIRE CURACAO (<10/2010)
93 GEYSER REEF
101 GOA
102 GOLD COAST/TOGOLND
113 IFNI
115 ITALIAN SOMALI
119 JAVA
127 KAMARAN IS
128 KARELO-FINN REP
139 KURIA MURIA IS
151 MALYJ VYSOTSKIJ I.
154 YEMEN ARAB REP
155 MALAYA
164 MANCHURIA
178 MINERVA REEF
183 DUTCH BORNEO
184 NETHER N. GUNIEA
186 NEWFOUNDLAND/LAB
193 OKINAWA
194 OKINO TORI-SHIMA
196 PALESTINE
198 PAPUA TERR
200 PORTUGUESE TIMOR
208 RUANDA-URUNDI
210 SAAR
218 CZECHOSLOVAKIA
220 SARAWAK
226 SAUDI/IRAQ N.Z.
228 SERRANA BANK
229 GERMAN DEM. REP.
231 SIKKIM
255 ST MAARTEN (<10/2010)
258 SUMATRA
261 SWAN ISLAND
264 TANGIER
267 TERR NEW GUINEA
268 TIBET
271 TRIESTE
307 ZANZIBAR
488 WALVIS BAY
493 PENGUIN ISLANDS

VUCC Award

TRX-Manager provides various function to track the progression of your VUCC (VHF/UHF Century Club Award).

From the DXCC Window

TRX-Manager displays the status of the VUCC Award for a given gridsquare from the DXCC window as well as the corresponding QSOs for this gridsquare by clicking a colored square.

The VUCC Summary

A summary of this award is available for the 6m, 2m, 70cm and SAT bands (HF bands excluded) from the **Display/Awards Summary/VUCC**submenu .

If DXAtlas (**V2.24**or later) is installed, the DXAtlas button creates the **trx-manager.wkd** and **trx-manager.cfm** gridsquares files in the **..\DX Atlas\Squares** folder and displays the worked and confirmed gridsquares on the map.

Please note each time you launch the VUCC Summary, TRX-Manager writes a database called **GridSquare_Summary.mdb** with the valid QSOs for this award. You may open this database from Access in order to edit or print detailed reports.

Other reports

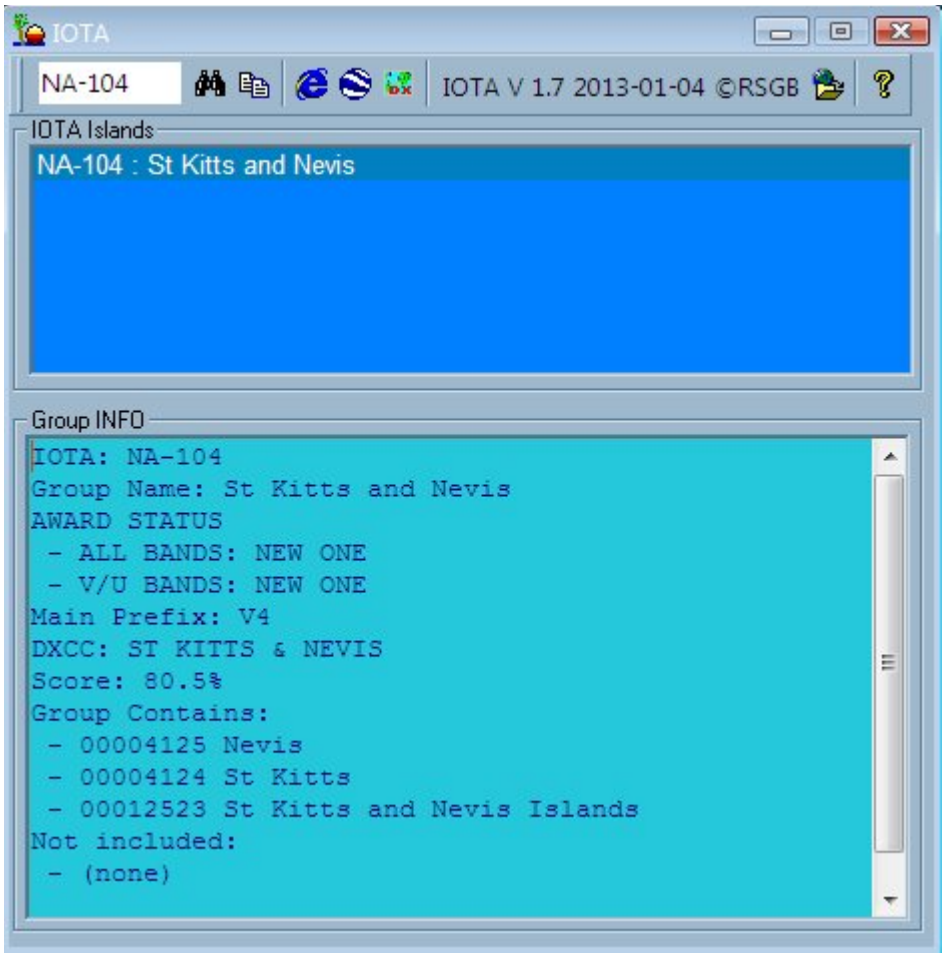
Comprehensive reports may also be displayed by using the Logbook's Explorer .

IOTA Award

TRX-Manager support IOTA Award tracking (Island on the Air, RSGB) .

IOTA Information

The IOTA Icon opens the IOTA information window. The IOTA icon is available from the Display/IOTA submenu but also from several context menus: Logbook, DXSpot's right click if a valid IOTA is found in the comment and **+IOTA** checked under **Preferences/DX Spots**



IOTA Window

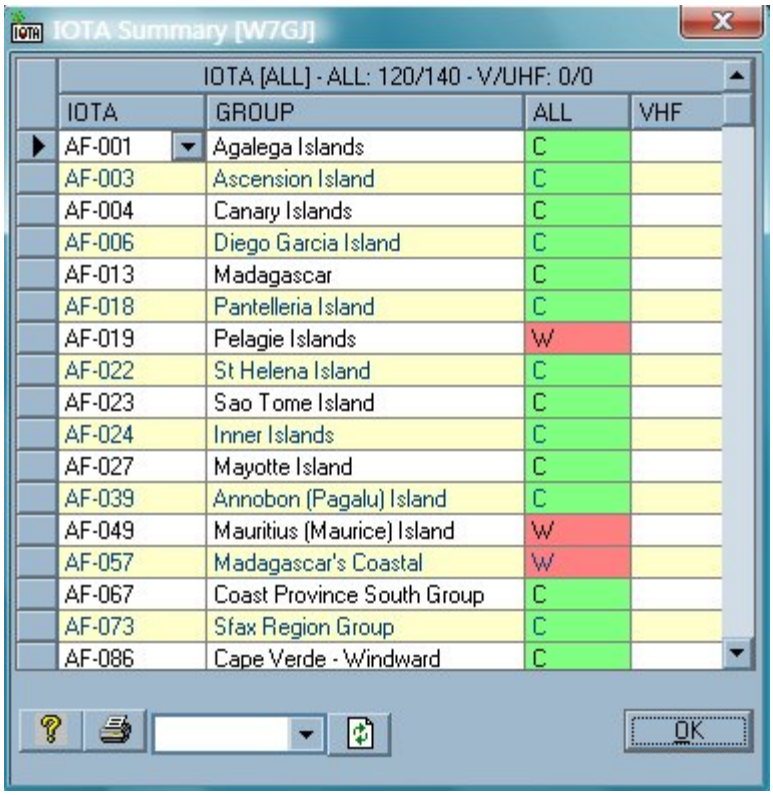
Functions of the IOTA toolbar

- searching for IOTA: please type the IOTA reference and click Enter or
- copying information to the clipboard
- browsing the RSGB website
- displaying Google Earth or DX-Atlas
- updating the IOTA full list (fulllist.xml) from the RSGB website

Award tracking

The Display/Award Summary/IOTA submenu displays the IOTA Summary.

Selection by Continent or Region is possible (WI=West Indies, BI=British islands, AI=Antartic Islands).



IOTA Summary

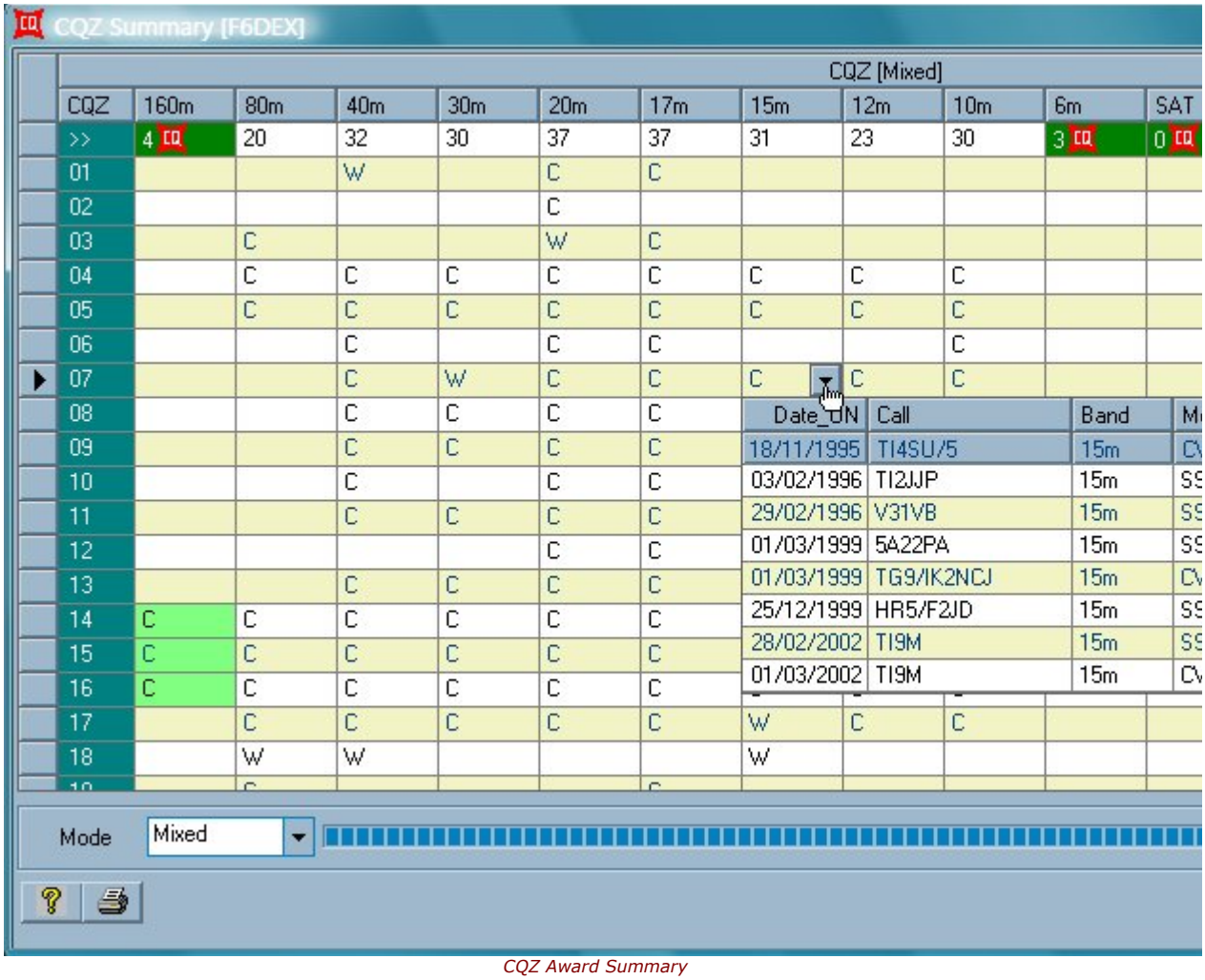
WAZ, WAS Summary

The **Display/Awards** **WAZ** **WAS** submenus open the summary for WAZ (Worked All Zones) or WAS (Worked All States).

WAZ and WAS have a very similar appearance.

All combinations of modes and bands may be displayed. Initially, the combinations are displayed for all modes (mixed). You select the mode from the **Mode** combo box and the valid combinations for the corresponding specialty awards are displayed in color. The total of QSOs is displayed in the first row.

By clicking on the different boxes in the grid, you can view the corresponding QSOs.


CQZ Summary [F6DEX]
CQZ [Mixed]
CQZ 160m 80m 40m 30m 20m 17m 15m 12m 10m 6m SAT
>> 4 20 32 30 37 37 31 23 30 3 0
01 W C C
02 C
03 C W C
04 C C C C C C C C
05 C C C C C C C C
06 C C C C
07 C W C C C C C
08 C C C C
09 C C C C
10 C C C C
11 C C C C
12 C C
13 C C C C
14 C C C C C C
15 C C C C C C
16 C C C C C C
17 C C C C C W C C
18 W W W
Date_ON Call Band
18/11/1995 TI4SU/5 15m
03/02/1996 TI2JJP 15m
29/02/1996 V31VB 15m
01/03/1999 5A22PA 15m
01/03/1999 TG9/IK2NCJ 15m
25/12/1999 HR5/F2JD 15m
28/02/2002 TI9M 15m
01/03/2002 TI9M 15m
Mode
Mixed

CQZ Award Summary

Tip

Before you display a summary, please launch the Tools/DXCC Update function. This function corrects the database for errors and formats the fields correctly.

Possible problem

TRX-Manager does not count your QSOs for CQ Zone 1 to 9: Please run the Tools/DXCC Update command to format your CQ Zones with two digits.

DDFM and DPF awards

TRX-Manager can calculate the progression towards the DDFM award (award of the departments of the Metropolitan France) and the DPF award (award of the French provinces) in their various combinations.

Precondition

As a preliminary, it is necessary to update the DXCC codes so that the French stations are recognized.

Progression

The progression towards the awards is obtained by the **Display/Awards Summary/DDFM/DPF** submenu. A combo makes it possible to choose between the various forms of the awards. The program displays the score for each band as follow:

- the **total** number of departments or provinces worked and confirmed,
- the **list** of the departments or provinces contacted and confirmed.

Consult the rules of the DDFM and DPF awards for further information.

List of provinces

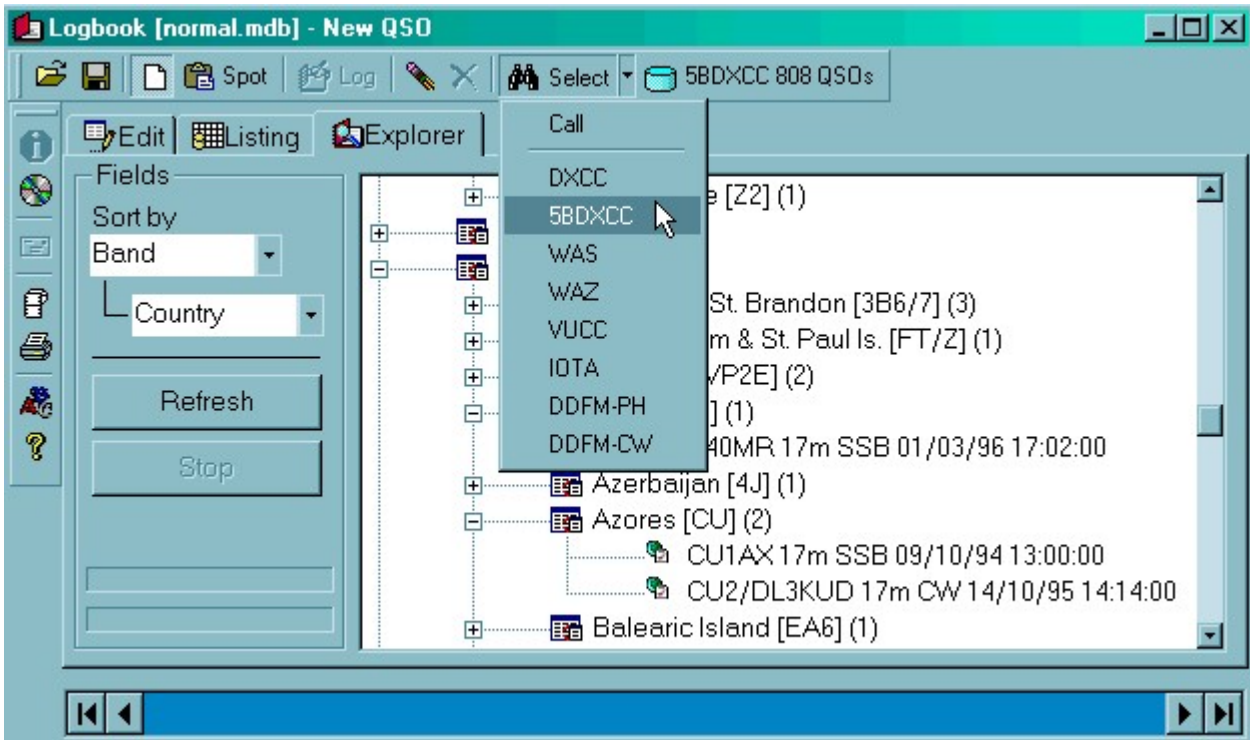
Each province is located according to its sequence number as follows:

1 Alsace
2 Aquitaine
3 Auvergne
4 Basse-Normandie
5 Bourgogne
6 Bretagne
7 Centre
8 Champagne
9 Corse
10 Franche-Comté
11 Haute-Normandie
12 Languedoc-Roussillon
13 Limousin
14 Lorraine
15 Midi-Pyrénées
16 Nord
17 Pays-de-Loire
18 Picardie
19 Poitou-Charente
20 Provence-Côte-d'Azur
21 Île de France
22 Rhône-Alpes

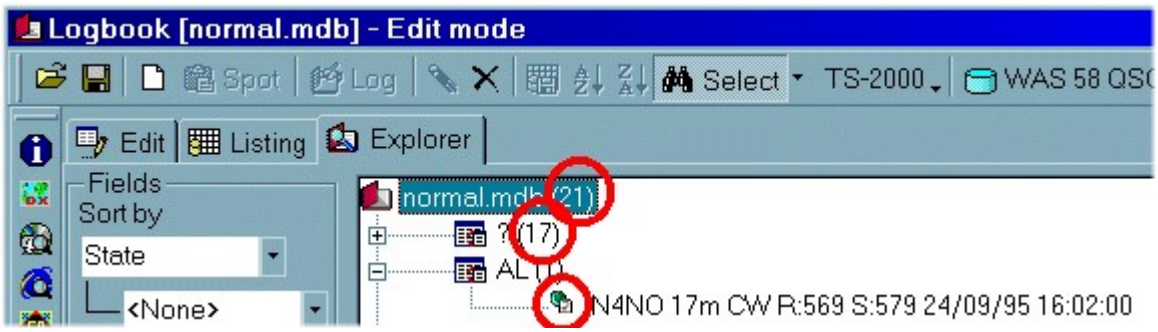
Other Awards

Other awards or reports can be computed, displayed and saved from the Logbook's Explorer. The first action is to select the valid QSOs by using the search functionor a SQL query (some queries are preprogrammed for the most current awards). Then, the Explorer tab of the Logbook makes it possible to set the fields to sort and to display the database with a hierarchical structure.

The selection of QSOs using SQL queries and the configurable hierarchical display of the Logbook provides a very large variety of reports but requires some training. Also, the computation of the most current awards : **DXCC, 5BDXCC, WAZ, WAS, VUCC, DDFM PH, DDFM-CW** (Mixed except DDFM) is made easy by the preprogrammed SQL search from the pulldown menu.



Displaying the 5BDXCC Award



Displaying WAS Award for normal.mdb (21 items)
item ?(17) = Unknow states (17 QSOs)
=> 20 confirmed states (may be more since unknow states are confirmed!)
AL(1) = (1 Qso)
etc...

Prefix and Special Callsigns data base editing

Any modification of the **Prefix** database or of the **Special Callsigns** database may be performed by opening the Prefix database editor (**Edit/Prefix base sub menu** ...).

> ***Note***
>
> *Please close the **SWL** and **Logbook** windows before opening the prefix database from TRX-Manager.*

See also

- Database grids

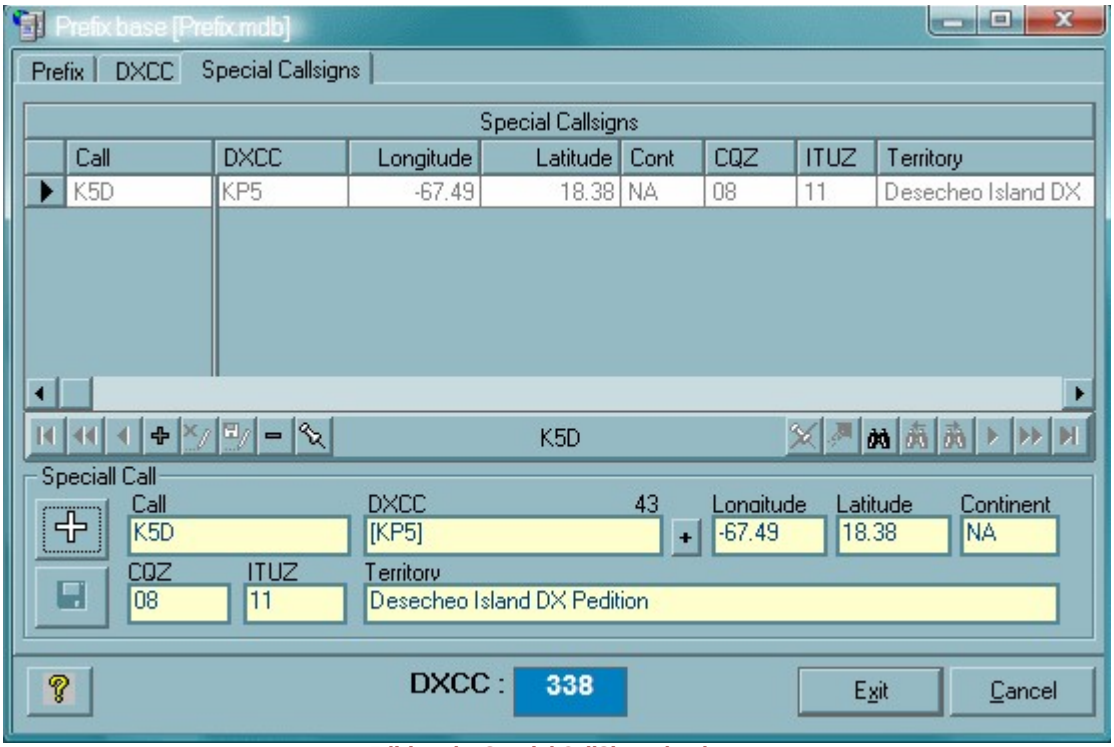
Editing the prefix database is a rather delicate and a risky operation (see below). The recommended alternative is to edit the Special Callsign database.

Editing the Special CallSigns database

In the particular case of you can not wait for the next update and/or you only need to define a special callsign as a reference for the DXCC Award (during a special event, a new DX-Pedition or even your friends), it is recommended you edit the Special CallSigns database (**specialcallsigns.mdb**) and NOT the prefix database. This method is highly recommended for short callsigns with 3 letters.

The specialcallsigns.mdb database is created (empty) the first time you open TRX-Manager. This database is **personal** and preserved each time you update TRX-Manager. In practice, TRX-Manager searches first for a strict match with any callsign defined in this database before doing a full search in the Prefix database (the special callsigns database has the priority over the Prefix database).

Editing the database is done from the **Special CallSigns** tab (of the Prefix database editor). Click to create a new record and to save the current report or the changes. The [+] button (next to the DXCC field) allows you to select the DXCC country in the list. You may personalize the Longitude, Latitude, CQZ, ITUZ, Territory fields for a perfect match with the location of the station so that Azimuth and Distance, CQZ, ITUZ are properly populated.



Editing the Special CallSigns database

Editing the Prefix database

Warnings

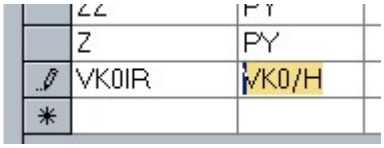
The format of the Prefix and DXCC table must strictly match the format required by TRX-Manager. A wrong format can cause malfunction and erratic behavior of TRX-Manager. As a precaution you should **backup** the original prefix.mdb database before doing any change. At any moment, you may cancel your changes by using the **Cancel** button.

Please note the Prefix database (Prefix.mdb) is updated each time you update TRX-Manager while the Special CallSigns database (specialcallsigns.mdb) is personal and preserved during program update.

Editing

The Prefix.mdb database contains two tables: the **Prefix** table and the **DXCC** table. Prefix and DXCC tabs are related to the corresponding tables of the database.

You must edit the database from the grid itself. You have to move to the last record in order to add an entry :



To validate a new entry, click on any existing entry. To delete an entry, click the Delete button. The Cancel button allows you to exit without saving the changes. Make sure you check all new entries. It is very important to check the right association between a prefix and a DXCC entry.

The Prefix table

This table keeps all prefix combinations and associations (~3000 entries)... The Prefix table includes the following fields **Prefix** - **DXCC** - **Longitude** - **Latitude** - **Continent** - **CQ Zone** - **ITU Zone** - **Territory** . This table allows you to associate a given prefix with a DXCC country and any of these geographical data.

Notes

Example*: you may associate VK0IR to VK0/H (DXCC = Heard Island) or distinguish latitude and longitude between W2 and W6…*

Advanced*: You may also define special callsigns from the Prefix table by adding the sign* **-** *to the Prefix (i.e. K5D-). TRX-Manager searches for a strict match with this particular callsign before browsing the prefix database. However, a recommended alternative is to create an entry in the special callsigns database (see above).*

Warning*: for each prefix, you must assign a reference to an existing DXCC prefix of the DXCC table.*

The DXCC table

You do not have to edit this table except when a change is made by the ARRL in the DXCC country list. In this case, it is recommended to wait for a program update! However, you may wish to edit this table to make the change yourself in the DXCC country list. This table includes a DXCC field (or index), the DXCC country name and the ARRL code (or ADIF code).

Loading a customized prefix database

According to your needs, you may prefer using your own customized database while keeping the original Prefix.mdb. This is possible by opening an other Prefix database (it must exist) from the Preferences/Logbook tab.

Special cases

Russian callsigns are not fully editable. Given the complexity of the Russian information system, the program performs specific operations when a Russian callsign is introduced.

Azimuth rotator and maps

Azimuth information

Each time you type a new callsign in the DXCC window, TRX-Manager shows the corresponding **azimuth** and DXCC award information and reports the corresponding information into the DX Map. HF Propagation predictions may be displayed.

TRX-Manager also calculates distances and directions based on **grid squares**(at least 4 digits) and provides an interface with DX Atlas and Google Earth .

Click the azimuth indicator to toggle to HF Propagation mode (and vice versa)

If the DXCC window stays open, each time a new dx spot is selected, azimuth is updated and allows you to immediately remote control a rotator. When used in conjunction with the automatic identification of stations, that feature gives spectacular results...

Azimuth **FROM** the station is displayed inside brackets.

Rotator control

TRX-Manager can control a rotator via a com port or a DDE interface.

See also

- Band Plan
- Troubleshooting

Settings

It is possible to define up to **two rotators** from the **Setup** dialog box under **Rotator** (but only ONE via DDE is supported).

The program is compatible with:

- The **SARtek-1** universal rotator interface (Azimuth)
- **Yaesu/Kenpro** rotators (Azimuth and Elevation)
- **Orion PA PX** and **PX V2.4** (most recent firmware, ORION 2800), Azimuth only
- **HyGain** rotators (Azimuth)
- **MicroHAM** (Hygain protocol, MicroHAM interface)
- **KCT** interface(Azimuth)
- **EA4TX's ARSWin**interface, Azimuth Elevation(DDE Link) http://www.ea4tx.com
- **WinRotor** (Azimuth) by **FUNKBOX** http://www.winrotor.com,
- **RT-21** Green Heron Engineering
- **Prosistel CD** (Azimuth Elevation) www.prosistel.net
- N8LP's rotor interface (DDE Link)
- **YO3DMU's** PSTRotator and PstRotatorAz Interface (DDE Link)
- **AlfaSPID** by Alfa Radio http://www.alfaradio.ca

If available, you must specify the serial port used and possibly speed. Other parameters are:

- **Reverse mounted** option : this option applies if your antenna is North centered with the stops at South : in that case, the program adds 180 degrees to the azimuth,
- **Offset (0-360°)** : support for beams mounted at an offset to minimize coupling with other beams on the same mast
- Settings for the **Satellite** interface (see below)

Then you still have **to assign a rotator to each HAM band** from the **Preferences** dialog box under **Rotator**. See also the Band Plan section for the other preferences: Antenna, TX Power, Tuner, Linear.

Your rotator is not in the list

A software upgrade is possible for any other rotator if you are a registered user of TRX-Manager.

Particular settings

KCT interface

*TRX-Manager launches the **MOVENOW.COM** program for which you must indicate the path in the **Setup**'s panel.*

DDE Interfaces (ARSWin, PSTRotator, N8LP)

*You must indicate the path of the **EXE** file (interface) in the **Setup**'s panel. If the interface doesn't work properly, please exit the interface and let TRX-Manager automatically launching it at startup. **Please note TRX-Manager supports only ONE DDE Rotor Interface at the same time.** Under Vista W7, running **TRX-Manager with administrator privileges (or with UAC = OFF) is mandatory** to establish the DDE link.*

ALFASpid Rotators

*The **AlfaSPID** rotators may be controlled via two ways :*

1. *The **SpidLog** selection requires the opening of the **AlfaRadio's SpidLog** program. However, the value of the azimuth is only "transferred" to SpidLog and TRX-Manager can not aim the rotor directly,*
2. *The **SpidRotor** (**1** or **2**) selection provides direct control via the RS-232 port (controller required). The **2** selection is required if your controller provides elevation control (speed 600 bauds). Otherwise, the **1** selection*

*must be used (speed 1200 bauds). Checking the **Reverse Monted** option is required for rotating the antenna from -180° to 180° rather than from 0° to 360°.*

ORION Rotators

The Orion rotators differ by the syntax of the command to move the rotor as follow:

1. ***ORION PA**: A (CR) NNN (CR)*
2. ***ORION PX**: A (CR) NNN.n (CR)*
3. ***ORION PX2.4**: ANNN(CR)*

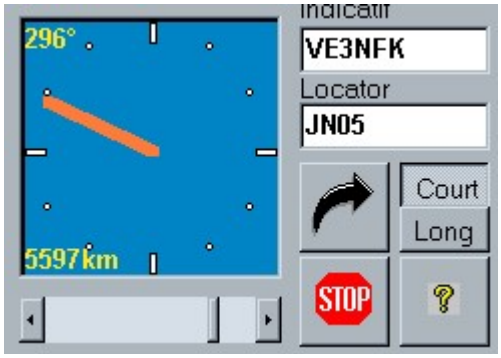
Where NNN, NNN.n is the azimuth without or with tenth and (CR) is a carriage return.

Tip

In case of one rotor controls two antennas mounted on the same mast but with different offsets, you may define the same rotor twice with the same com port but with a different **Offset** under Rotator 1 and Rotator 2 (a warning may pop up...).

Rotator control

The rotator is controlled from the DXCC windows.



The **rotating** button rotates the antenna ; the **stop**button stops it. The direction may be set for **short path** or **long path** according to the button selection. It is also possible to select any direction by moving the slider and then to rotate the antenna by pressing the rotating button.

With some rotors, the Stop button also polls the rotator for its current azimuth.

Notes

- *the DX-Map windows is interfaced with the DXCC windows : any click on the map affects the azimuth indication.*
- *the **stop** button doesn't work for all interfaces and rotators.*

Warning

Because of the ease of remote controlling, you may forget the mechanical limitations of your rotator: please make sure that you read and respect the factory limitations.

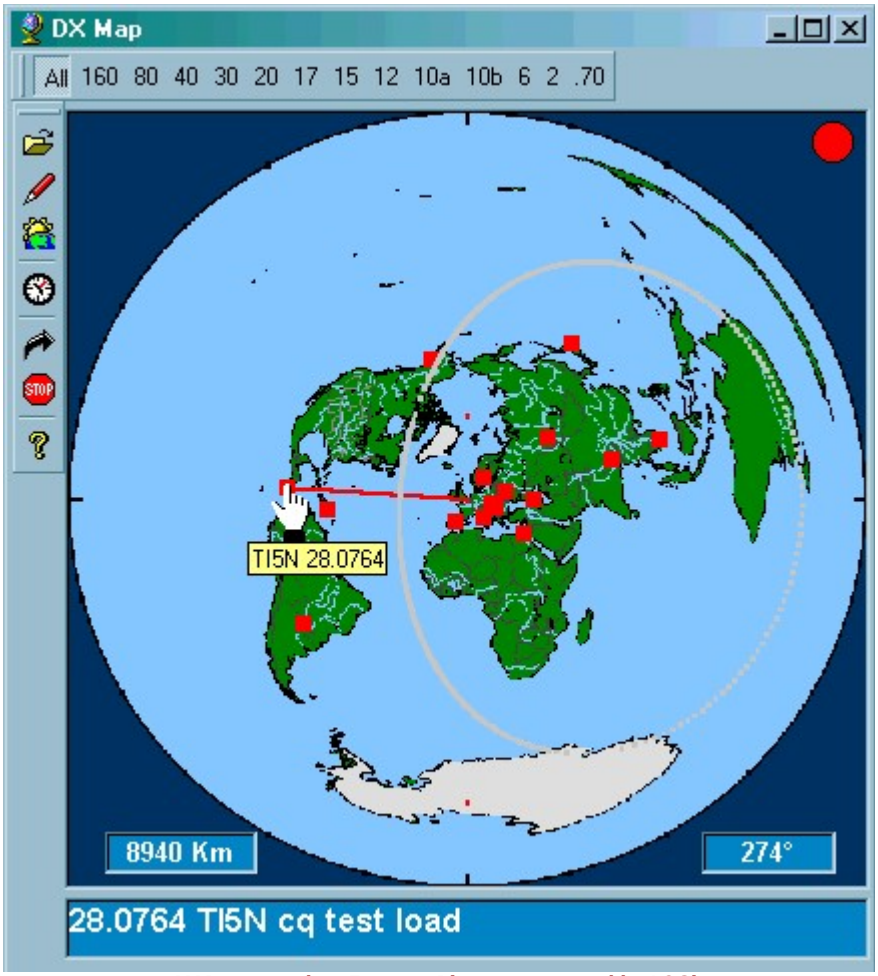
Satellite interface

The Satellite Interface supports a direct control of the rotator in Azimuth (and Elevation with some rotators : see above).

If you wish your rotator being controlled in Elevation, please check the Setup's Elevation option and indicate the maximum elevation (90 ° by default). The **Step** combo (in degrees) makes it possible to specify the increment for the automatic control.

DX map

TRX-Manager provides an azimuthal projection of the 25 last DX-Spots or the NCDXF's HF Beacons. This feature may be activated from the Web Cluster'sor the DX Clustertools bar . The same window shows location for any spot you are listening and controls the rotator.



MAP centered on France - Bitmap generated by LOGic

Refreshing the map

The Map may be manually or automatically refreshed after each download from the Web Cluster if the corresponding option is checked (**Preference** submenu).

Available information and QSY

For each spot the "tools tip text" gives the Call Sign and the frequency. A **left click** transfers this frequency to the transceiver. A **right click** on spot opens a pop up menu and displays DXCCand CD-Rom (QRZ Callbook) windows.

Rotating the antenna

Any left click on map draws a vector to aim the direction. You only have to press the rotator button to rotate the antenna.

Loading a map

This projection will show up on any background of your choice. Of course it would be interesting to choose an azimuthal map as a background but **TRX-Manager is not able to create the map** . You must use a separate program to create a map and you need to save the corresponding image as a BMP or JPG file ; then you load the map into the window using the **open file** button .

The software stretches the BMP or JPG file so its size fits the windows but, for good quality, please create the map by approximately copying the same size as the largest window you will be using. The size of the map must be 40000 km x 40000 km (world map) and the globe must be the same diameter as the length of the sides of the square.

How to find a MAP ?

If you are looking for a program able to draw this map, you should visit:

- The World according to GARP on http://www.schaik.com/garp/garp.html
- AZ_PROJ on http://www.wm7d.net/azproj.shtml
- GMT on http://gmt.soest.hawaii.edu/
- NS6T's Azimuthal map on http://ns6t.net/azimuth/
- Azimuthal Equidistant Map by OK2pbq on http://ok2pbq.atesystem.cz
- AziWorld by F6DQM http://www.f6dqm.fr/software.htm

NCDXF's HF Beacons

The **Beacons** menu displays the positions of the HF beacons of the **Northern California DX Foundation, Inc** . Opening the menu sets up the transceiver on the beacon's frequency : your computer clock must be set to the correct time. The **Cycle** button allows an automatic tracking of a beacon over the five bands.

To go back to the display of the DX-Spot, please click **All Spots** or any band button.

See also

- HF Propagation prediction
- There are a number of free programs that will help you keep your clock accurate ; a free software is available on the **NIST**'s web site at : http://www.nist.gov/pml/div688/grp40/its.cfm

HF Propagation Predictions

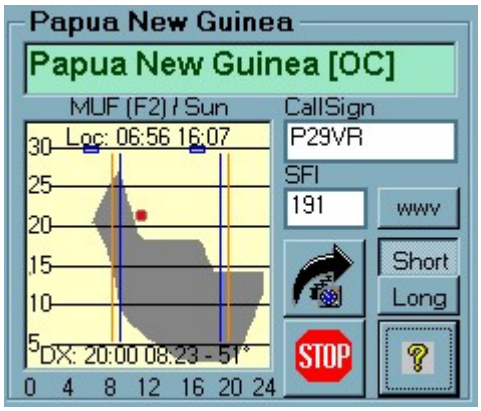
TRX-Manager includes HF Propagation predictions via the F2 Layer from the DXCC window.

See also

- DX Map (beacons)
- Alex VE3NEA web site

Displaying the predictions

Once DXCC Info window is open, you only need to click the main azimuth indicator in order to toggle to the HF Propagation prediction mode. Predictions are then displayed for the current country according to a diagram with indication of maximum and lower usable frequencies (**MUF/LUF**) for each hour of the day.



Click the Propagation diagram to toggle to Azimuth indicator (and vice versa)

Maximum usable frequency is the highest frequency which supports reflection (in fact refraction) through F2 Layer (MUF) between two points. Minimum usable frequency (LUF) is the maximum E Layer's Cut Off Frequency (ECOF). A **red dot** indicates your current position in the Time/Frequency space.

By moving the mouse on the diagram, the touch help gives you, for the current time : **MUF**, **LUF** and a prediction of **Hops** to the current country. You will note that if LUF is higher than MUF, a path is not possible through F2.

Sun Set and **Sun Rise** time for the DX Station are indicated in the lower part of the graph (DX) and represented by two orange lines while two blue lines indicate the end and the beginning of the twilight. When the **red dot** is between a blue line and an orange line, the absorption of the D layer is minimal while MUF is high and the propagation may momentarily improve... Your own Sun Set and Sun Rise time are also indicated (Loc) and your twilight is represented by two little blue squares making easy to see if a circuit along the terminator (gray line) is possible.

The **SFI** text box (Solar Flux Index) lets you set up the program according to the solar activity. You may obtain the SFI from a DX-Cluster (SH/WWV command) or on the Internet (**http://dx.qsl.net**). If you are connected to the Internet, the **sfi** button updates this field automatically from the NOAA server and displays the latest announcement in the status bar of the program.

Notes

- ***Short/Long*** *(Path) buttons are activated,*
- *by clicking the DX Map you may obtain prediction for the corresponding zone,*
- *predictions are calculated for the current day of the current month.*

Principle

TRX-Manager is inspired from R. Fricker's algorithm written in 1985. The program cuts the path into Hops of about 4000 Km. For each control point, the program calculates the maximum usable frequency (MUF) for a reflection through F2 Layer. Also, the program calculates the maximum frequency for a reflection through E Layer : this frequency is called minimum usable frequency (LUF) because the signal must go across E Layer before reaching F2 Layer.

Please note the result is only a prediction : MUF is currently exceeded (50 % of the time). In addition, the prediction is limited since only propagation through F2 is considered.

More powerful algorithms now exist but require a large number of parameters. The algorithm used by TRX-Manager seems to give representative results but is pessimistic. It is, however, useful to calculate the best hour for a specific contact.

For sunrise and sunset times and twilight, TRX-Manager uses an algorithm from Montenbruck and Pfleger (Astronomy on the Personal Computer).

Integration with HAM Cap

TRX-Manager provides an interface with HAM Cap. HAM Cap is an HF propagation prediction tool for Amateur Radio by Alex VE3NEA. For more information please go to the Alex VE3NEA web site.

If HAM Cap is properly installed and running on your computer, the **External** menu shows the HAM Cap icon which opens the HAM Cap Window. You may also display propagation predictions for a given callsign from the Web Cluster's or DX Cluster's context menus.

Installing HAM Cap

Installing HAM Cap is not a totally straightforward process:

- *Install HAM Cap*
- *Install VOACAP using the latest **itshfbc_yymmdd** exe file to download from http://www.greg-hand.com/hfwin32.html. Use the default directory **c:\itshfbc** only!*
- *Run HAM Cap. Use the same UAC settings for HAM Cap and TRX-Manager (usually UAC ON is fine for both).*

HAM Cap is a freeware. However, the best way to use HAM Cap is in integration with IonoProbe distributed as a shareware for a very moderate fee.

Interface with DX Atlas

TRX-Manager provides an interface with **DX Atlas** written by **Alex VE3NEA**.

DX Atlas Download

- Afreet Software, Inc.www.dxatlas.com

Installing DX Atlas

DX Atlas must be properly installed ; in that case TRX-Manager automatically detects its installation and there is no special settings to do : the **DX Atlas**'s icon appears in the **External** menu and in the **External** tool bar. If this icon does not appear, please reinstall DX Atlas.

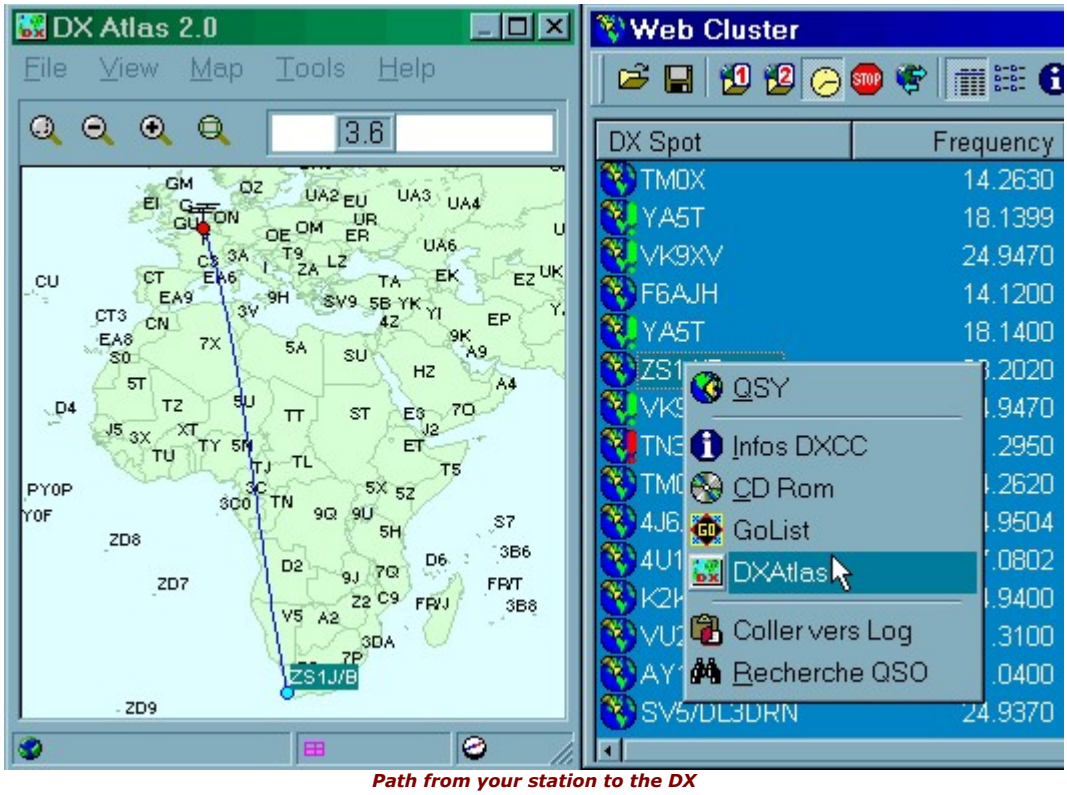
Using DX Atlas

Please press the **DX Atlas button** from TRX-Manager in order to display the interface foreground. Since the OLE interface does not provide a minimize button, click any part of the TRX-Manager interface in order to put DX Atlas background.

In addition, the drop down button also allows you bringing the interface to front or unloading DXAtlas in order to save resources...

The DXAtlas button of the main toolbar runs in relation with the DXCC Window ; pressing this button shows the path to the current direction.

A right click on a spot from the Web Clusteror DX Cluster window also displays the position of the station in DX Atlas without using the DXCC interface.

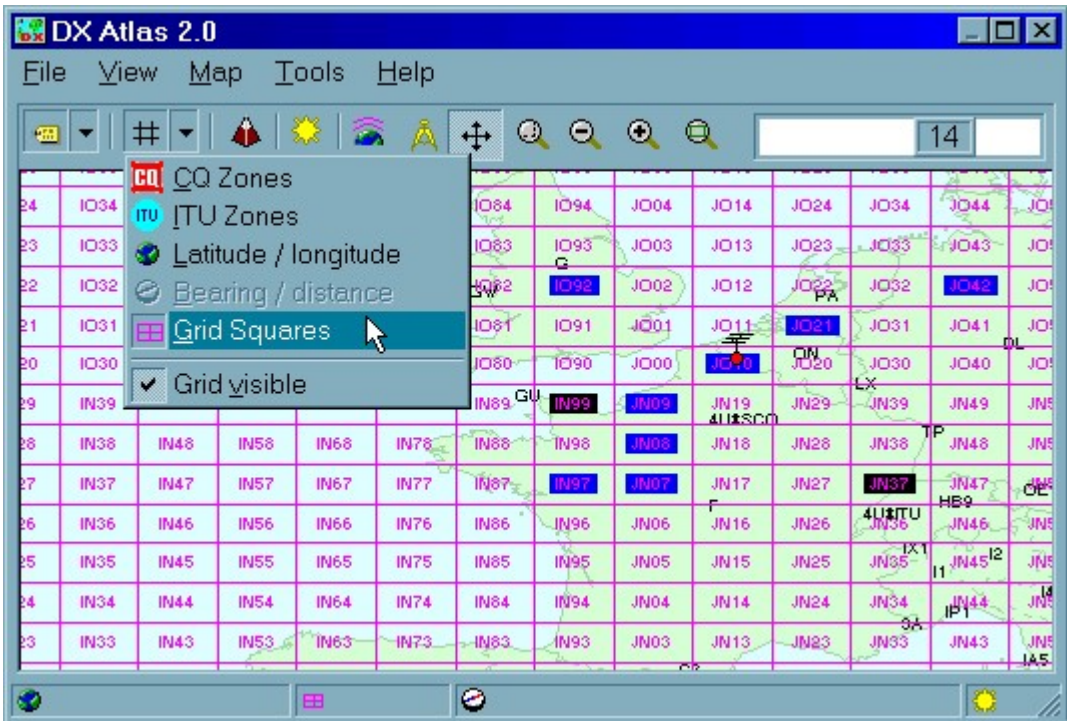


Path from your station to the DX

From the DXMap, you can click on the DXAtlas button on its toolbar, which then shows the path between the spotters and the DX spots. This can then be used to show the propagation between your QTH and the DX. You can also right click'on a DX spot and chose DXAtlas to show the propagation between your QTH and the DX.

paths between the spotters and the dxspots

From the VUCC Award summary window, the DXAtlas button creates the necessary files (trx-manager.cfm & trx-manager.wkd) for the display of the VUCC Award progression on the map... DXAtlas V2.24 or later is required to use this function.



VUCC progression displayed by DXAtlas

• Possible problems

- If you launch DX Atlas from TRX-Manager, you will have the preferences for DX Atlas defined by TRX-Manager (recommended). It you prefer your own preferences for DX Atlas you must launch DX Atlas **before** you start TRX-Manager.

- Sometime the computer crashes while launching DXAtlas from TRX-Manager. This problem is probably related to the video-driver but remains unresolved. A possible work-around is to launch DX Atlas before you start TRX-Manager.

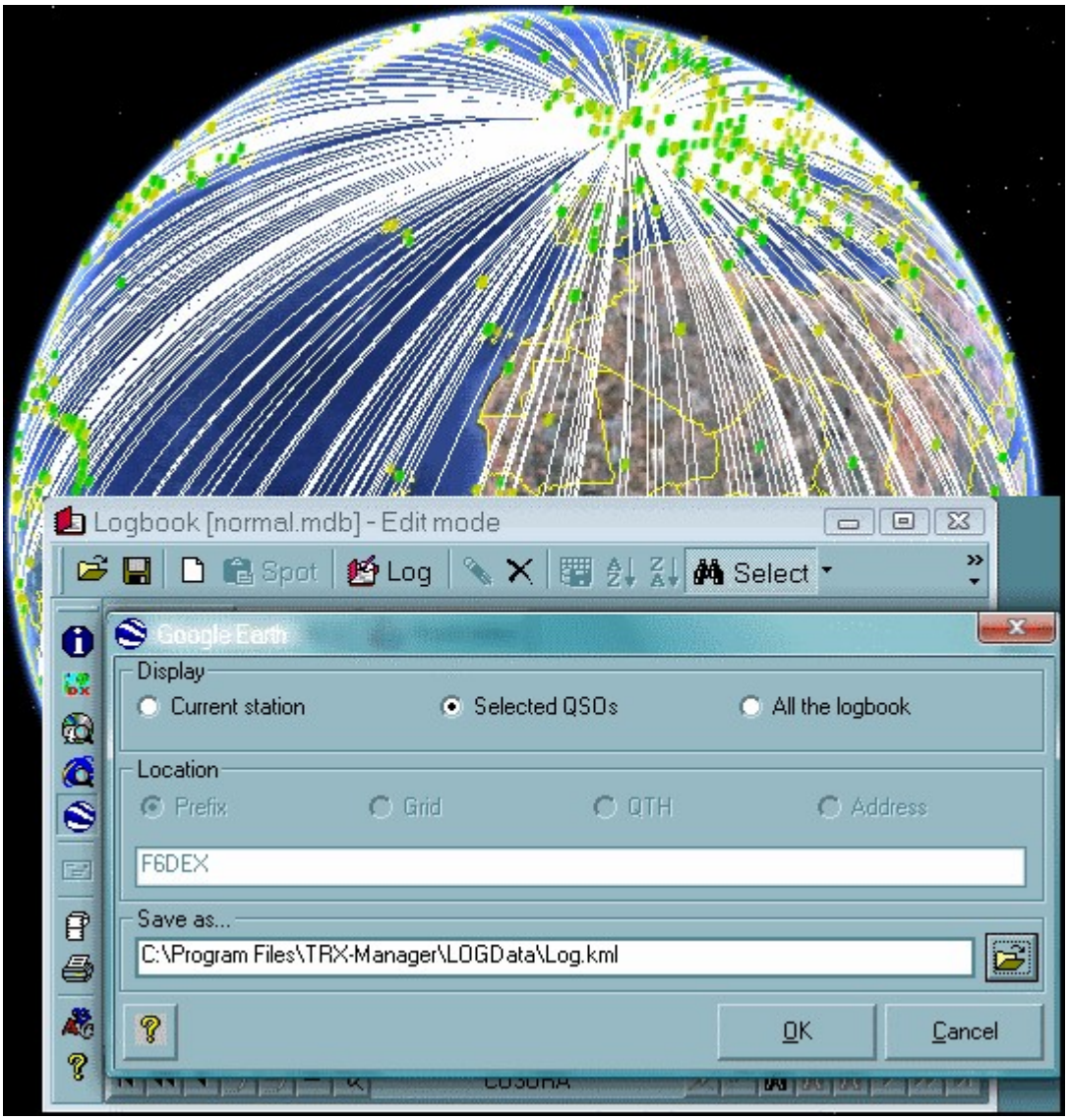
Interface with Google Earth

TRX-Manager provides an interface with Google Earth. The Google Earth application (V5 or later) must be installed on your computer.

A google Earth icon appears in various modules : Logbook, CD-Rom (RAC, Buckmaster, QRZ.COM), DX Cluster, Web Cluster, Quick Memories, SWL Database... Each time you press a Google Earth icon, TRX-Manager creates a TRX.KML file and opens Google Earth. The display depends on the context and may include a single station or paths to different stations. Zoom level is adjusted according to the accuracy of available data. Location is calculated from Long/Lat, Grid or DXCC Prefix): CD-Roms are the most accurate since they generally provide Longitude and Latitude (at least for stations in NA) ; if longitude and latitude are not available, the Google Earth icon stays grayed out.

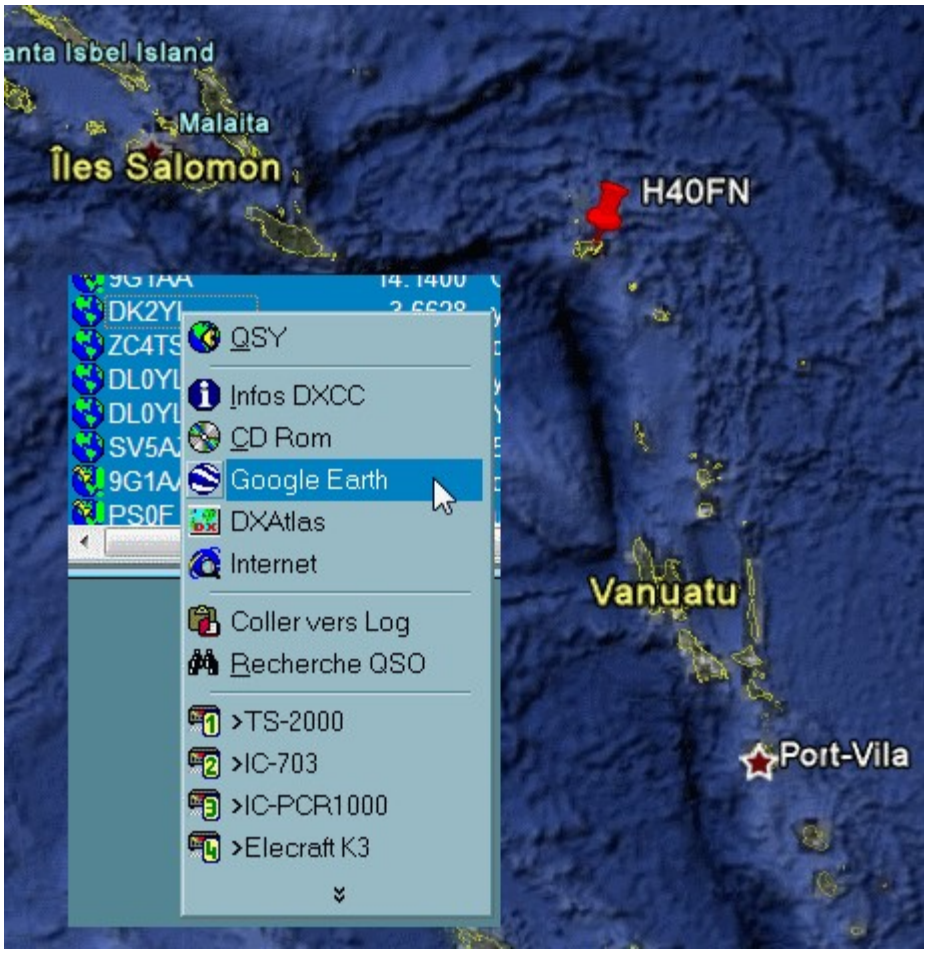
From the Logbook, TRX-Manager allows you to choose various options:

- To display either the current station, the current QSOs selection (defined by the **SELECT** function) or all the logbook,
- For the current station, position can be extracted from DXCC **Prefix**, **Grid**, **QTH** or **Address** (in case of you choose Address or QTH, you must edit the corresponding field according the to the format required by Google Earth: standard street, city, state, country),
- The file name of the kml file.

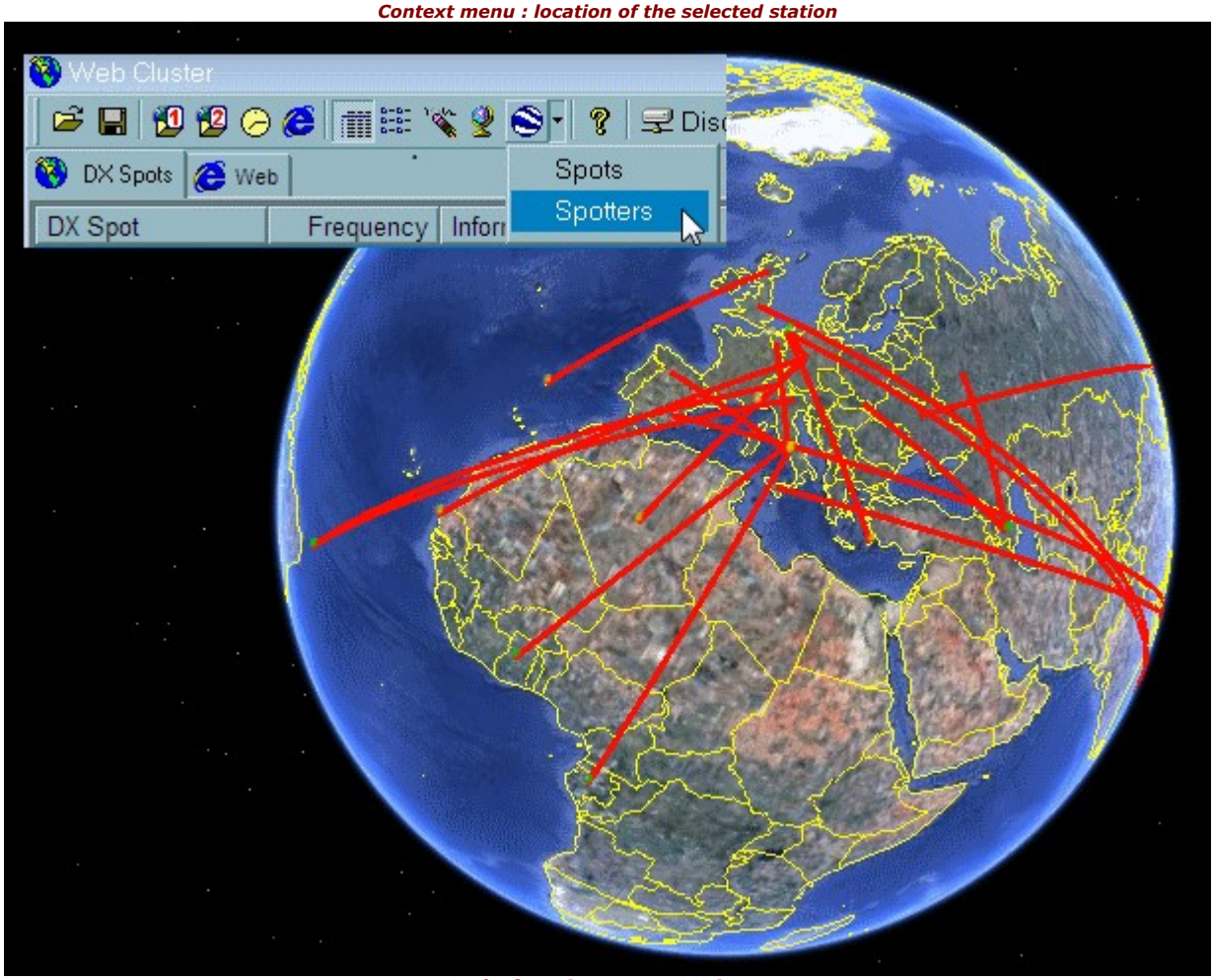


Logbook: Selection of QSOs

From The DX Cluster, Web Cluster... the context menu allows you to display the position of the selected station while from the toolbars you can display all spots (posted within the last hour) with paths either from your station or paths from spotters to DX Spots. Pin's color follows the DX/Web Cluster convention (red: new one, green:needed, yellow:optional).



Context menu : location of the selected station



Paths from Spotters to DX Spots

Log book

Log book overview

TRX-Manager is not a conventional logging program but provides a very intuitive real-time logging...

TRX-Manager uses the very reliable Microsoft Jet 3 data base engine (Access 97 base format). Any data base created by TRX-Manager (MDB extension) may be opened from Access; however do not save the database with the current Access format (2000 or later) which is not compatible and make a backup copy of your file before opening it from Access!

Would you prefer to use a Logging program with specialized functions such as: multiple awards, contesting...? Please note that TRX-Manager is fully interfaced with **LOGic** via OLE. Whatever your needs the exporting function of TRX-Manager is sophisticated enough to provide easy updating of your favorite log book via the ADIF format (Amateur Data Interchange Format).

Main Log book features

- Introduction, editing a QSO,
- Automatic report of essential parameters, of DX-Spots,
- Selection, searching a callsign and sorting,
- Advanced searches and reports using SQL,
- Selective importation/exportationto ADIF
- Support for the LogBookof The World
- Import from LogWindows , TRLog files, export to Excel (CSV)
- Basic printing of the log or of a selection of QSO's
- QSL labels printing
- reading CD-Rom (QRZ Callbook Buckmaster), HamQTH database
- Callsign look-up via the Internet (automatic link with the fields not supported)
- Searching if the station has even been worked before
- Sending EMails
- Auto backup of the log file
- Contest mode
- Logging from a digital modem software

See also

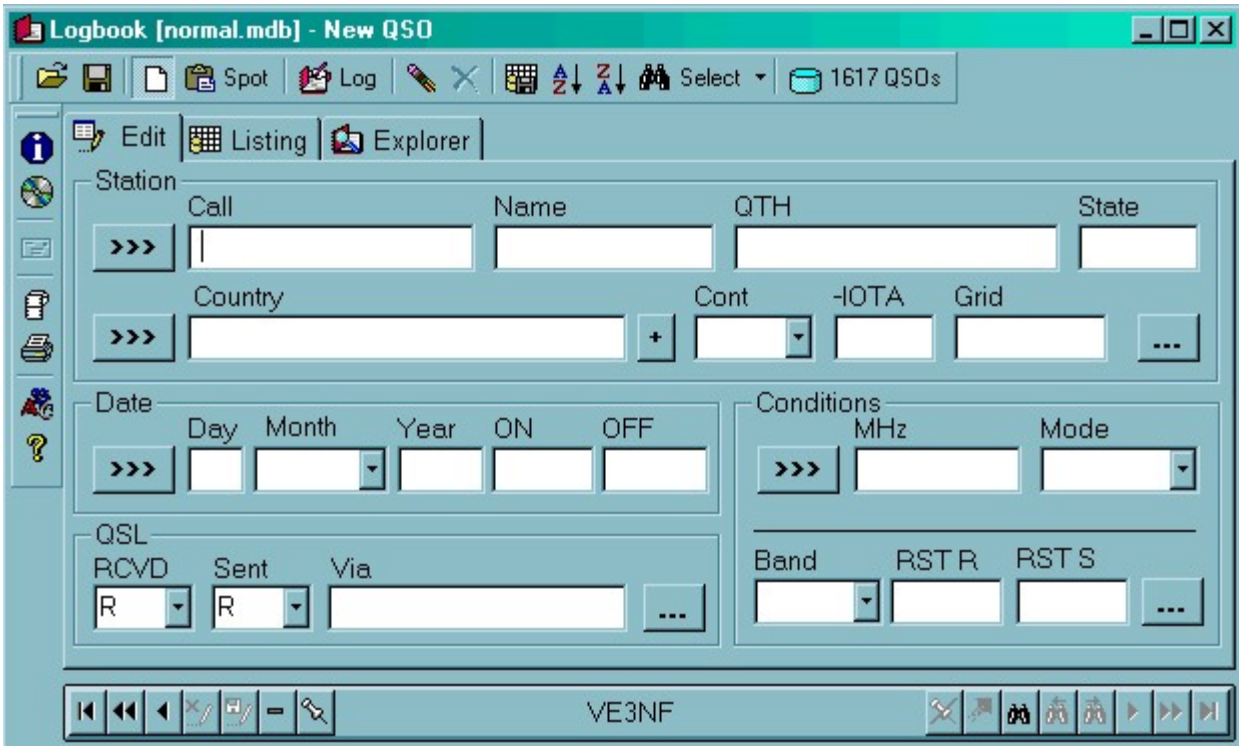
- Database Grids
- Current Spot

Opening the Log Book

The **File/Log book** submenu (**F11**) or the corresponding tool bar button opens the Logbook window.

The log windows shows :

- Two **tool bars** to select the different functions :



- An **editing tab** to input a new QSO or edit an existing QSO,
- A **listing** tab using a configurable grid for a general view of the data base, QSO selection or sorting by any field,
- An Explorer tab which displays a **Hierarchical view** of the database,
- A **data control** (navigation bar) to navigate inside the data base.

Setting up your Preferences

Before you use the Logbook, it is recommended you set up some Parameters under Preferences/Software dialog (Logbook tab).

Fields by default

- **RST S** (sent) or **R** (received) : fixed, Contest format (CQWW: 5914...), customized...
- **QSL S** (sent) or **R** (received),
- **QSL S = Y => QSLSDate** field filled in with date of the day (when you update this field),
- **QSL Sent via** (to indicate if a QSL has been sent via bureau, direct...),
- **Message** to be printed on Labels,
- **Power** and **Transceiver** : **Auto** or **User** defaults to be automatically added in the corresponding fields of the Logbook (Auto power requires a connected wattmeter),
- **Callsign** (**Operator** field filled in with the registered Callsign) + **Suffix** if needed such as **/P / M /2...**
- **Suffix:** a suffix such as **/P /M /2...** can be added to the **Operator** field. Check **Suffix** and fill in the text box with the desired Suffix.
- **User-defined** logbook's field (title **Track** by default).

Behavior

- The **Copy** check box provides recall of the most recently entered information (*)
- The **QSO Before** check box pops up **QSO Before** window when you click a spot or when you log a new QSO.
- **Real Time** mode: in most situations **this option must be checked** ; when you enter a new QSO (not continuously) Frequency, Mode and Date fields are updated (filled in) according to the current situation. If Real Time mode is NOT checked, the program ignores the current situation and each time you create a new QSO, TRX-Manager recalls the last entered Date, Time ON/OFF, Frequency and Mode. This option is useful ONLY if you enter QSOs from an old paper logbook or if you are using the program with the demo transceiver selected...
- **Ultra Fast Logging**: If checked, pressing F12 or Enter (depending on your choice) populates the fields and saves the QSO in one click (however, only if the if the cursor is in the CALL field). The F12 key is recommended in most case, while the Enter key is only required for small keyboards or during a Contest. See also Logging a new QSO.
- **Expert** mode: the **Expert** option removes real-time message boxes (confirmation for Save, Clear...); in addition Frequency and Mode fields are continously updated. In Contest mode Expert mode is used by default.
- **Appearance:** the **Active Resizer** option of the LogBook allows - or does not allow - the Logbook's Edit tab being resized up to fit all the window.
- The **Edit Color** option changes the color of the QSL fields according to their values (Y N R).
- The **LOGic server** option allows a real-time link with the LOGic's database (provided LOGic is installed and running).

- The **CW Bar** option makes the CW Toolbar visible or not visible
- **F1-F8> CW Msg** enables or NOT the CW Keyer's F1-F8 shortcuts (recommended during a contest).

*(*) Moreover, if the **Auto Log** box is checked (under **CD-Rom**), the program performs a search from the defined **CD** and fills in **Name QTH Gridsquare** and **State** fields.*

Files

Here, you may define the default prefix database and the logbook database (.mdb format).

If **Auto Backup** is checked, you must specify a backup **folder** for your database. Then :

1. Each day: the first time you launch TRX-Manager, the log book is saved in this folder,
2. Each day: each time you exit TRX-Manager, the logbook is saved in a different folder for each day of the week.

You can find and open the Backup folder easily without opening and running TRX-Manager (which may erases a previous backup) using the TRX-Tools software.

Date and time format

Dates and **Times** are displayed according to the format defined for Windows : please set these preferences from the Windows's Regional Settings Panel (**Date and Time property pages).**

Possible problems

After updating the program, some fields do not appear: please delete the layout file (.GRD) associated with the current database in order to reset the layout of the Listing to the defaults.

Logging a new QSO

Press the **new QSO** button (or **Ctrl-N**) to create a new QSO. The button looks as if depressed and the title bar shows : **New QSO**. Please introduce the callsign and press the TAB button.

Use the **TAB** key to move from one field to another in the log panel. Use the **more** button to access more fields.
The **clear** button (**Ctrl-D**) may be used to clear all the fields and to start logging again. Use **Ctrl-C** to give CALL field focus.

The Log button (or **CTRL-S** or **F12**) saves the QSO in the database.

> ***Real Time logging***
>
> *To log your QSOs in real time (automatic update of Date, Time and Frequency fields), please make sure the **Real Time** option is checked (Preferences/Logbook).*

Logging modes

TRX-Manager features several other ways of logging:

1) Classic mode

This mode is comparable with that proposed by other logging software's : you introduce the callsign and you press the button (**Ctrl-Ins**) OR the **Enter** key. This action has the following effects (in sequencing order) :

- if the **Copy** check box is checked (**Preferences/Logbook**), the logbook's fields are filled in using the most recently entered information,
- if the **Auto logging** check box is checked (**Preferences/CD-Rom**), the empty logbook's fields are filled in with the data collected from the the CD or the HAM base,
- the callsign becomes the current callsign and all windows are consequently updated,
- **Distance** and **Azimuth** are calculated and displayed from the DXCC window according to the **Prefix** or the **Gridsquare** field if it comprises at least 4 digits.

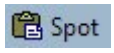
Please note that the program responds to the Keyboard's **Enter** key ONLY from the Callsign or Gridsquare fields (if the cursor is in one of these fields).

2) Ultra-fast mode

Ultra Fast Logging must be checked under Preferences/Software, Logbook tab, pressing **F12** or **Enter** (depending on your choice) populates the fields (like Enter above) and saves the QSO in one click. This logging mode is convenient if you don't have any other data to save. Please note this function automatically fills in the various fields ONLY if the cursor is in the CALL field. Consequently, you log as follow: type in the CALL and immediately press F12 (or Enter)! That's all. If you choose F12 (recommended in most cases), you may still use Enter to populate the fields, edit them and press F12 to save the QSO.

3) DX Spot mode

Different buttons have an automatic recall function of some of the current data : **DX-Spot,** DXCC **country - continent - date - hour - frequency - RST - comment - QSL manager**.

A one key recall is provided by using the **Spot** button  (*). Once you have pressed the Spot button, if you want to complete the fields with data from a CD-Rom or Internet, you must press the button (**Ctrl-Ins**) OR the **Enter** key (while the cursor is in the callsign field). Press the **Log** button to save the QSO.

(*) If the DIG button is checked, the Spot button reads the fields of the modem digital software (if defined and running).

4) Round-Table mode

By right clicking the grid (Listing tab) and selecting the **Duplicate** submenu, the QuickLog window opens and allows you to quickly duplicate data (Frequency/Mode/Date/Comment) from an existing QSO in order to create a new QSO. This function may be particularly useful for round-table QSOs.

> ***For SWL***

If you are SWL you have to save two QSOs each time (callsign#1 and callsign#2). To speed up the process, please do as follow :

- *From the **Preferences** under **Logbook** tab, rename the **Track** field as **2XQSO** (mandatory),*
- *Fill in the callsign field with **callsign#1**, press Enter, edit other fields if necessary and type **callsign#2** in the Track field (**2XQSO**)*
- *Save this QSO with callsign#1*
- *TRX-Manager saves the QSO and creates a new QSO with callsign#2 (while 2XQSO is filled in with callsign#1). All fields related to this QSO are preserved.*
- *Edit this QSO if necessary and save it.*

Particular fields

- the logical field **Export** is initialized to **YES** (checked) for each new QSO to provide **manual** or automatic update to another database. Let this field to YES for a new QSO : this allows TRX-Manager exporting this QSO. After the exportation is completed, the field can be automatically (or not) updated to **NO** to prevent the QSO from being exported again,
- the **Export** field may also be used to mark the QSOs for which an electronic QSL has been sent (see **eQSL** service...),
- the field **Band** is calculated from the frequency. For a QSO via **Satellite** you have to manually introduce **SAT** as band.
- QSL fields (**QSL_RCVD** and **QSL_Sent**), TRX-Manager uses the following conventions :

R = Requested
Y = Yes
S = Submitted (RCVD only)
D = (Only) Digitally confirmed
N = None
I = Ignore

- **QSL_Print** field, TRX-Manager uses the following conventions :

Blank (default) : the field is ignored
L=Print label (useful to select specific QSOs)
A=Print Label + Address
N=No label

- the **QSLSDATE** field does not appear under the Edit tab. This field is automatically updated when you print labels or manually from the Listing.
- while **QSL_VIA** is for the QSL Manager (if required), the **QSL_SENT_VIA** field is related to the way you send the QSL :

B=Bureau
D=Direct
E=Electronic

Saving the QSO

When all the desired fields are filled in (at least **Callsign** and **Date ON**), the contact may be added into the data base by pressing the **Log** button or **Ctrl-S** or **F12** ; please note the **Date_OFF** field is automatically updated.

The log book is now ready for logging a new QSO and, eventually, may be minimized (*).

(*) minimizing the Logbook window also minimizes the CD-Rom, HamQTH, FCC, QSOBefore windows

Drag and drop

Note finally, that a drag and dropsets up a cluster's spot without passing by the monitoring. The spot (or any other icon of frequency) must be dropped into the data control (lower part of the logbook's window).

Editing a QSO

To select a QSO for edition, you click the corresponding row of the **Listing** to make that QSO current. Then select **Edit** tab and the log book toggles to the edit mode: The new QSO button looks as unpressed, the title bar shows **Edit Mode** and the fields take the colors of the grid (this last functionality can be disabled by unchecking the **Edit Color** check box under **Preferences/LogBook**).

After changing a field from the Edit tab, if you click in another record, your changes will be discarded and not saved. You have to save the change into the database using the **Log** button. It is also possible to delete a contact by pressing the **delete** button or by right clicking the corresponding line.

However, after changing a field directly from the Listing tab, if you click in another record, your changes are saved.

Notes

- *It is possible to toggle from new QSO mode to **Edit mode** by pressing the new QSO button : this button acts as a toggle. The fields of the new QSO are saved in memory (but not in the log) when you toggle to Edit mode.*
- *Click the column header button of the **Listing** to sort the logbook by that column*

Context menu

From the **Listing** tab, a context menu (right click in a record) allows you :

- deleting and logging off a QSO,
- to duplicate a QSO for the same Freq/Mode/Date/Comment but a different CallSign (Quick Logging mode),
- updating the Export Field for a QSO,
- updating the QSL field when the QSL is received,
- to force a DXCC code.

A right click opens the context menu

The QuickLog window (Duplicate context submenu)

A **multiple selection** function is provided for deleting, logging OFF, QSL=Y and exporting status by selecting one or more QSO using **CTRL + [Click]**

Press ctrl+click to select more than one QSO

Quick Edit from the QSO Before window

The QSO Before window may prompt to show your previous QSOs with a given Callsign (from the DX Cluster, DXCC Window...). By just clicking a row, the corresponding QSO becomes the QSO current in the Logbook and is ready for editing.

QSO Search, Sorting

Various searches or selections of QSOs can be performed using the **Select** function/menu of the Logbook:

- **Quick search** for the current callsign
- Access to the **Search window**
- Selection of valid QSOs for some pre-programmed Awards (see also Explorer).

The Select button is toggle: click it for a search and click it again to cancel the the search criteria.

The number of selected records is displayed on the tool bar

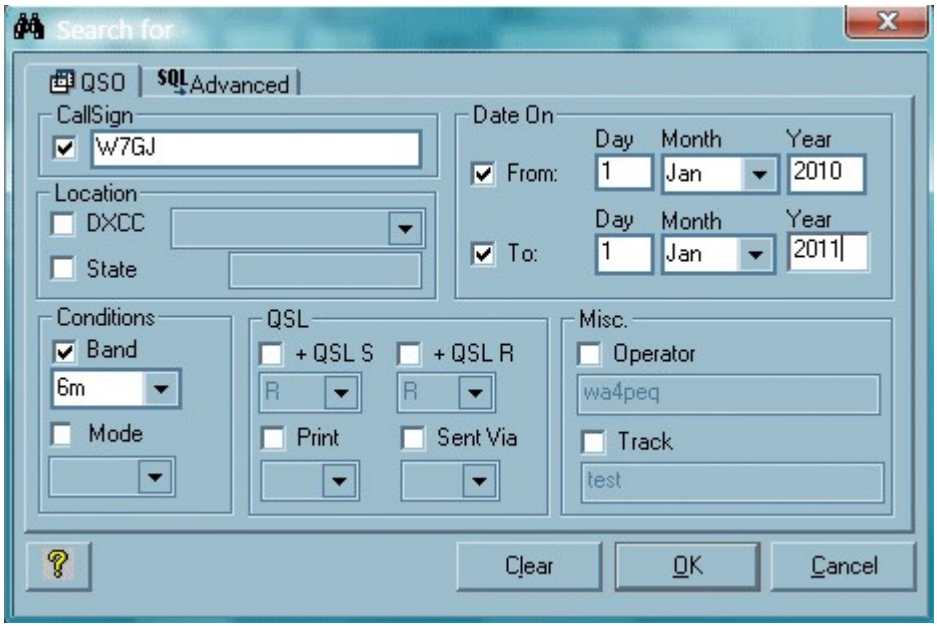
.

Quick search

The small arrow on the right of the Select button makes it possible to quickly select QSOs with the current callsign. To initialize the menu, you only need to type the callsign or to click a QOS in the grid (listing tab) :

The Search Window

The **QSO** tab provides searching for predefined fields :



Searching by call sign

You only have to type the desired callsign (or a part of a callsign) to search and press **OK** : the only matching QSO's will be displayed.

Searching by date or QSL

You have to check the corresponding check-boxes and to fill in the field criteria in order to search. You may also combine **date** with **QSL** or **call sign** by checking or unchecking appropriate check-boxes.

Search by location

Search can be performed by **DXCC country** or by **State** (= French Department for example).

Search by Operator or Track

Warning: if these fields are checked but empty, search will done on empty fields of the database.

Advanced searches

The **SQL** tab permits advanced searchesand reports using SQL language.

Printing the selection

The current selection may be printed by pressing the print button of the LogBook.

Sorting

Sorting by any field is possible by:

1. Selecting the desired column header (click any record in this column)
2. Clicking the following buttons : or to sort by ascending or descending values.

Logbook's Explorer

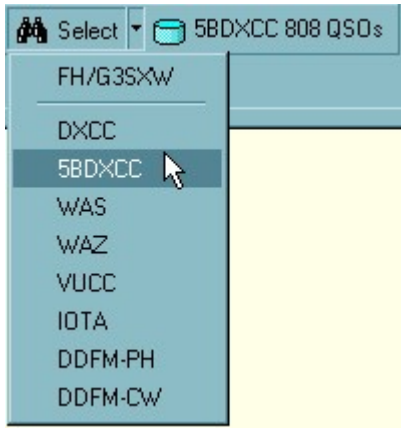
The **Explorer** tab of the **Logbook** displays a hierarchical view of the database. This very powerful and easy to use function (coupled with the search function), makes it possible to display and to save various reports for almost any award or to seek the database for specific records.

Please note the Explorer is a graphic control : displaying can take several minutes depending on your criteria!

Selecting the QSOs

You may explore the whole Log without selecting specific QSOs but to display an Award (or for any other need), you have first to select the valid QSOs. You may use different methods:

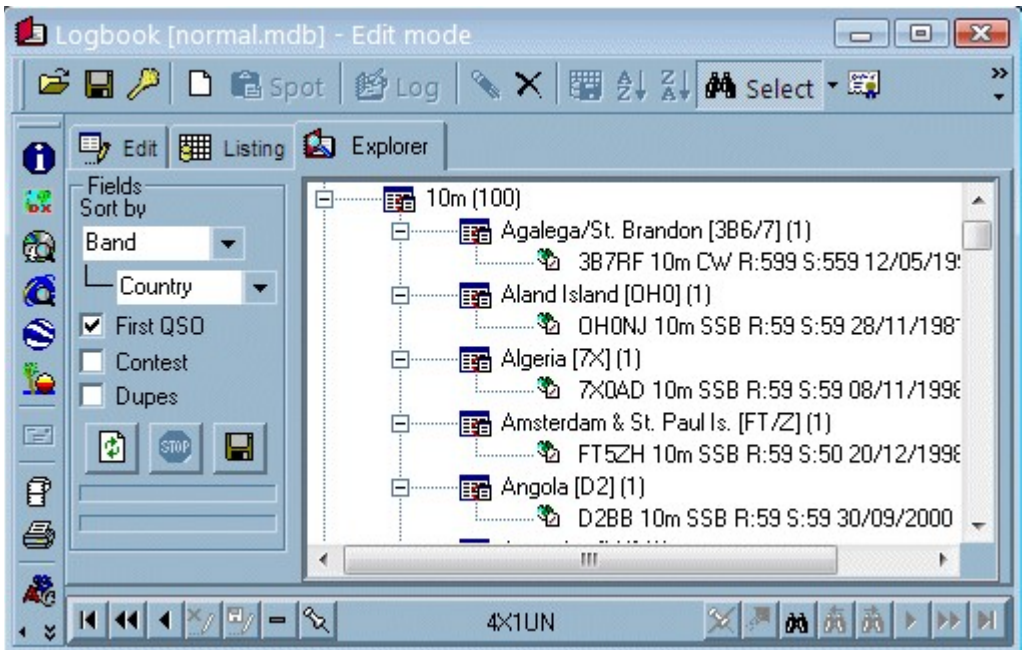
- A search criteria defined from the Search window
- A SQL Query defined from the same Search window
- An automatic selection of the most current awards using the **Select** pulldown **menu**:



Displaying the report

You have to select two fields which will be used to sort the database (if you choose an award from the menu, these fields will be automatically selected) then you press the **Refresh** button : after **some minutes**, the database is sorted and is displayed as a hierarchical structure.

You can limit the display to the **First QSO** for each search criteria (with a big database, the process takes less time).



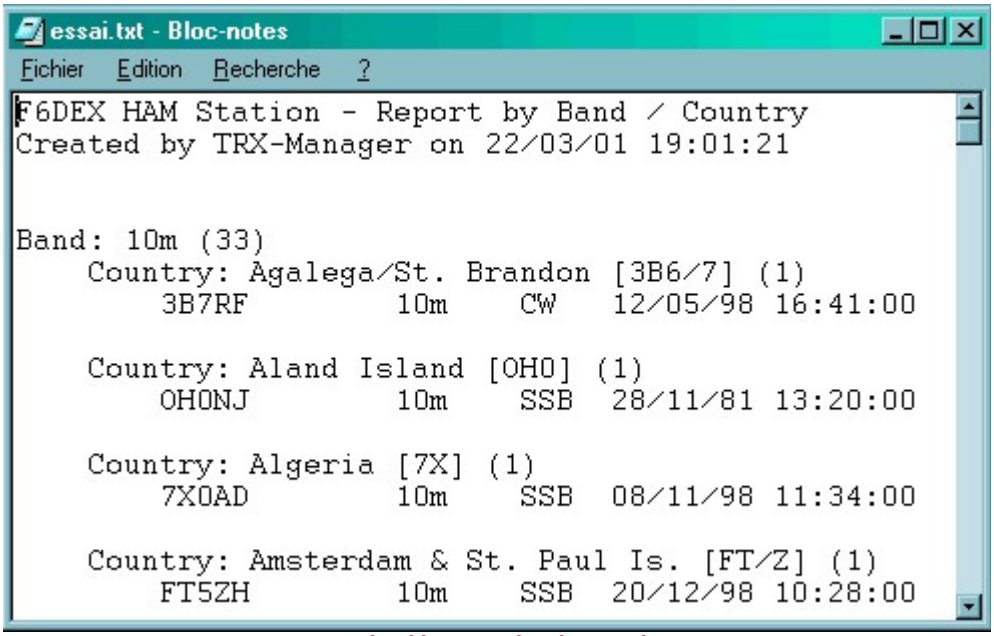
When you click a QSO (Worked, Confirmed) it is displayed under the Edit tab and you may modify its content.

The **Contest** and **Dupes** options allow displaying the QSOs of the current Contest and/or the duplicate QSOs (or Dupes : same Call, Band, Mode).

When **Dupe** is checked, clicking a QSO from the Explorer selects the duplicate QSOs from the database (in **Select** mode) and they are displayed in the Listing tab for editing. Please don't forget to press the **Select** toolbar's button to reset the current selection and to display the whole database again.

Save to File function

The **Save** button box saves the report to a text file. The **First QSO** check box limits the listing to the first QSO of each search criteria.


essai.txt - Bloc-notes
Fichier Edition Recherche ?
F6DEX HAM Station - Report by Band / Country
Created by TRX-Manager on 22/03/01 19:01:21
Band: 10m (33)
Country: Agalega/St. Brandon [3B6/7] (1)
3B7RF 10m CW 12/05/98 16:41:00
Country: Aland Island [OH0] (1)
OH0NJ 10m SSB 28/11/81 13:20:00
Country: Algeria [7X] (1)
7X0AD 10m SSB 08/11/98 11:34:00
Country: Amsterdam & St. Paul Is. [FT/Z] (1)
FT5ZH 10m SSB 20/12/98 10:28:00

Printable report (Explorer.txt)

Tips

- When you work with the Logbook's Explorer, it is advised to close the **Monitoring** and windows in order to improve the speed of the program,
- Sorting by Award takes less time,
- Sorting is processed by alphanumeric order which is not convenient for some numeric fields such as **CQ** or **ITU**zones. It is recommended to fill in these fields with two digits (i.e. Zone 01 and NOT Zone 1). Note that DXCC Update is reformatting **ITUZ** and **CQZ** fields with two digits.

Advanced searches and reports

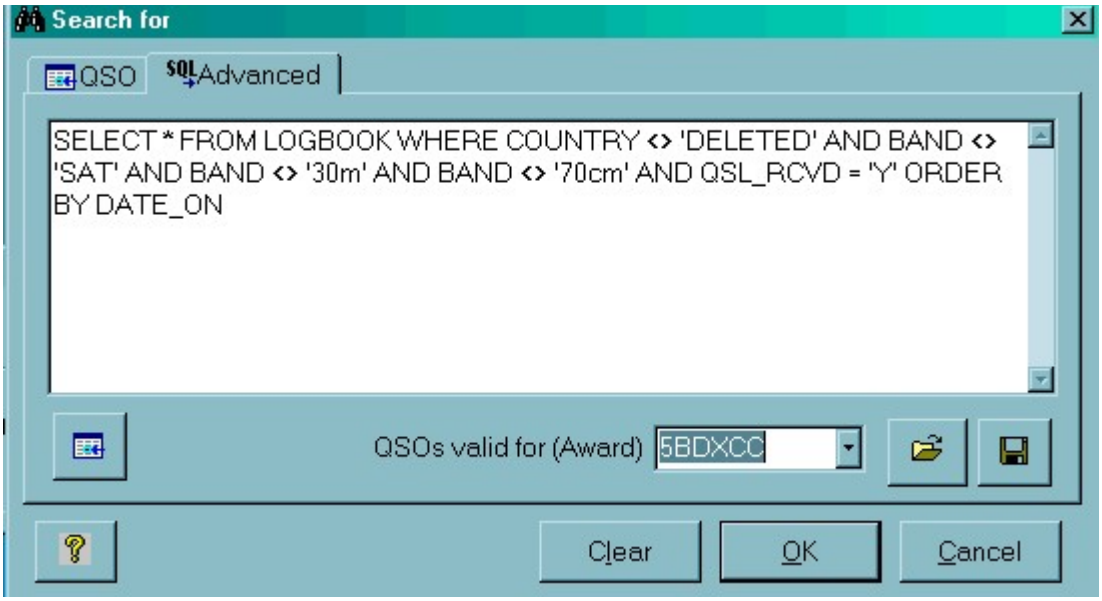
The **Advanced** tab of the Log book's **Search**dialog box allows you to select records using SQL queries. Some SQL queries are preprogrammed for the most current awards.

Below are also some useful examples of SQL queries which can be copied and pasted into the SQL editor.

Easy way to search

Clicking the **Select** button of the Logbook's opens the Search dialog box. Select the **SQL Adavanced** tab.

Choose a preprogrammed query or start a query under the **QSO** tab and click the **SQL** tab to recall the corresponding query using the QSO button for editing. In addition, the **Save**button allows you to save the query on hard disk as text file (SQL extension) and later on to recall it using the **Open**button.



Notes

- *The wording of the fields must strictly respect the names displayed in headings of the grid (Listing),*
- *The DISTNCT clause enumerates and counts the different values for the specified field. The records associated with each value are not visible.*

Status of the WAS

The WAS rewards QSOs made with the US states.

Enumerating

```
SELECT DISTINCT STATE FROM LOGBOOK WHERE QSL_RCVD='Y' AND (DXCC = 291 OR DXCC = 110 OR DXCC = 6) AND STATE <> ' ' ORDER BY STATE
```

Valid QSOs for the WAS

```
SELECT * FROM LOGBOOK WHERE QSL_RCVD='Y' AND (DXCC = 291 OR DXCC = 110 OR DXCC = 6) AND STATE <> ' ' ORDER BY STATE< /FONT>
```

Enumerating a DXCC with QRP condition (10 w)

```
SELECT DISTINCT DXCC FROM LOGBOOK WHERE QSL_RCVD = 'Y' AND TX_PWR < '10'
```

Enumerating the DXCC Millennium award

The DXCC 2000 Millennium Award rewards QSOs made with more than entities of the ARRL DXCC List within the Year 2000. Contacts may consist of any combination of bands or modes

SELECT DISTINCT DXCC FROM LOGBOOK WHERE QSL_RCVD = 'Y' AND DATE_ON >= #01/01/2000# AND DATE_ON <= #12/31/2000# ORDER BY DXCC

Printing the Log book

Printing of the essential data is provided via the corresponding tool bar button .

If a search is in progress (**Select** button pressed) the corresponding selection will be printed ; if there is no search in progress, a dialog box prompts for the selection of QSO to print (by date and/or by export field).

The printed log book is sorted by **Date ON**.

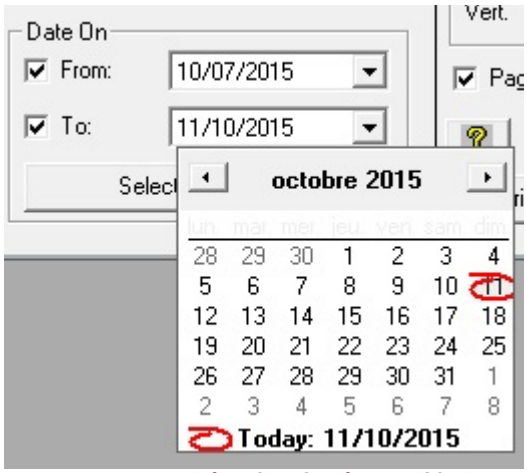
QSL Labels printing

Printing QSL labels is possible from the Logbook by pressing the button of the toolbar which opens the Labels wizard.

Selecting the QSOs

By default, the program prints the labels of all the QSOs of the database whose **QSLS** field is **R** or **Blank** and **QSL_Print** field is not **N**. The title bar of the wizard displays the **number** of correspondind QSOs for which a label will be printed.

However, from the wizard, in order to limit the number of QSOs to print, you can specify a date **range**: select the date **(From/To**) and press **Select** to populate the corresponding QSOs.



Data range : July, 10 to October, 11 2015

Using the Select function of the Logbook

You may also limit the number of Labels to print by using the Select function of the Logbook. In that case TRX-Manager prints all the QSO matching this selection whose **QSLS** field is **R** or **Blank** and **QSL_Print** field is not **N**.

However, please note that depending on your selection (or the syntax of your SQL query), in some cases, you may have unpredictable results (anyway, avoid a selection by QSLS).

Settings

In view of the variety of available format, there is no defined label format. A graphic wizard allows you to adjust the label size to match your paper/printer. Adjustment can be made to **margins**, **spaces** between labels, **size etc**...

The font size will be adjusted so that the printed information matches the label size.

The **QSL** option allows you adding the QSL status (**PSE QSL** or **TNX QSL**). The **Message** check box allows you to add - or not - the message field from the Logbook. The **QTH** check box allows you to add your QTH or any other text to your **UserID**. Please note that you can set the QTH from the **Preferences** dialog box under **Location**. The **Color** check box allows you to print the recipient callsign in red.

One or two trials may be necessary to set all the parameters and the selections.

Note

Adjustments are made from the printing zone of the printer. You have to adjust to the proper margins of the printer.

The Label

Printed information includes : the **callsign**, the **QSL Manager** (if available), your **UserID** followed by your **QTH** (optional), QSL status (optional), **date** and **time**, **frequency**, **mode**, **report sent** and the **message** (optional).

If **QSL_Print=A**, a label with the address will be printed.

How to personalize the message

The message (to be defined from the Preferences or the Log Book) may include the following joker ***** which will be replaced by the Name. Example: Laurent F6DEX has made a QSO with Pierre F6HAC.

- The message is defined as : '73 Dear * de Laurent F6DEX'
- The printed message will be : '73 Dear Pierre de Laurent F6DEX'

Printing - updating the Logbook

If appropriate, you may indicate the position (by its number in the sheet) of the **first label** to print (**Start**) in order to use a previously started sheet (this option only applies to the first sheet).

The **Page by Page** check box prints one page by one page. The **From Page** option allows printing from the specified page number. This option is useful in order to resume a printing session without a waste of label sheets in case of your printer crashes.

Printing is launched by the **Print** button. Labels are sorted by Callsign.

Because errors during printing are possible, updating the **QSL Sent** field is only manual (preferably after a successful printing!) by using the **QSL=Y** button. This action will replace **R** or **Blank** by **Y**. If **QSLSDATE** is checked, the corresponding field will be filled in with the current date.

QSL Printing ?

TRX-Manager does not feature a QSL printing utility. If you are interested by QSL printing, please see **ADIF2QSL** on the Marek SP7DQR' web site.

Opening and creating a new Log book

Creating a new Log book is easy by using the **Open**button .

You have to choose the **MDB** extension and to type -if necessary- the name of the new data base. If this data base doesn't exist TRX-Manager will create a new one; the new data base becomes the current data base.

It is also possible to declare the name of the (new) data base via the **preferences** dialog box **logbook** tab.

Tip

Don"t forget to compact your database from time to time in order to optimize its performances.

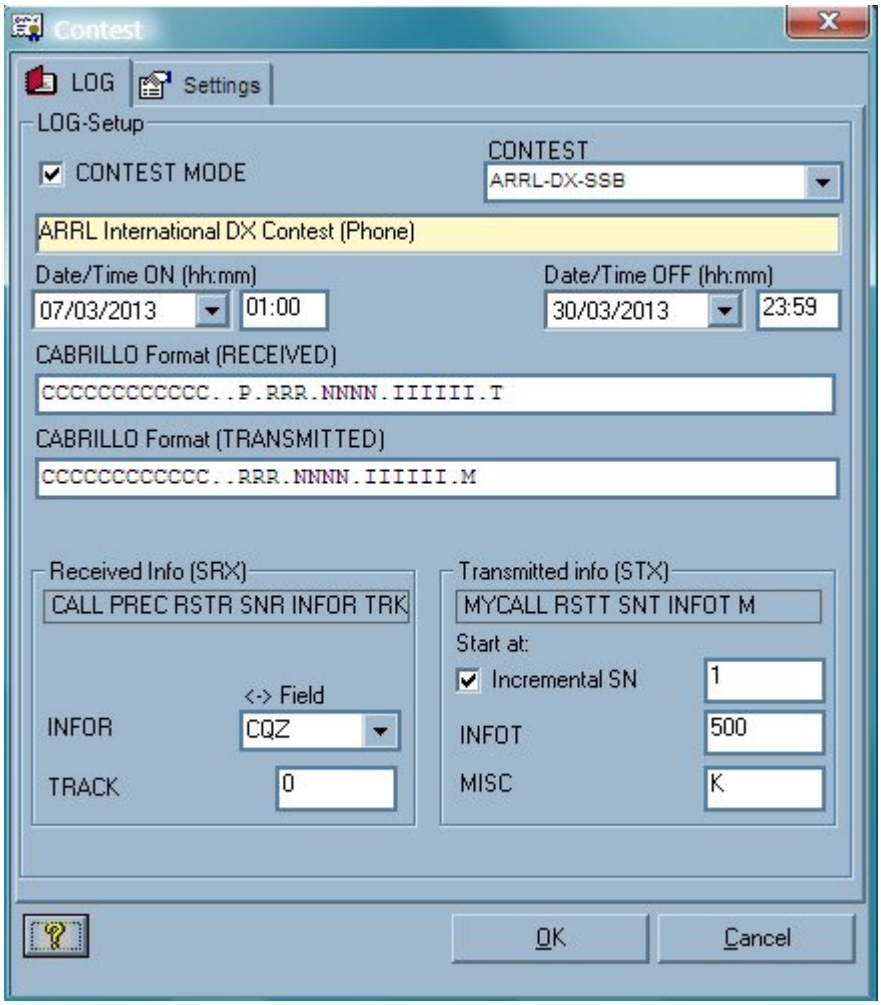
Contest Mode

The TRX-Manager's Contest mode allows contesting without necessarily using specialized software. In Contest mode, the Logbook is configured in a very convenient way and some actions like sending CW messages, serial number are automated directly from the Logbook. Export using the Cabrillo format is supported.

Setting up TRX-Manager for a contest

Contest set up is done from the **Parameters/Contest** dialog.

You enable/disable the Contest mode by checking/unchecking the **CONTEST MODE** option. You may also activate the Contest mode from the Logbook's toolbar using the **Contest** toogle . All other settings are done from the Contest dialog only.



Contest dialog

Configuration requires the knowledge of the **Cabrillo data format** as provided by the Sponsor. Some contests are pre-configured but most require a manual configuration.

Choose the Contest from the **CONTEST** combo box. If this Contest is pre-defined, the Cabrillo format format will be updated. Otherwise you have to configure the Contest format manually.

RX or TX Cabrillo format have to be configured as follow (example):

ccccccccccccc.rrr.iiiiiiii

Each character represents a field and the number of characters = the length of the field, as follow:

Character	Cabrillo field	Abbreviation	MDB Field	RX	TX	Remarks
C	Callsign	CALL	CALL	X	X	
R	Report	RSTR/RSTT	RST_RCVD/RST_Sent	X	X	59 or 599 by default
N	Sériel number	SNR/SNT	SRX/STX	X	X	Numeric
I	Exchange 1	INFOR/INFOT	SRX_STRING/STX_STRING	X	X	String
P	Precedence	PREC				One char only
T	Exchange 2	TRK	TRACK	X		Additional exchange
M	Exchange 2	M	(none)		X	Not in database
.	(space)		(none)	X	X	(dot) Space

Once these data are completed, you still have to define, if applicable:

RX

- Optionnal : field of the database to be automatically populated from the SRX_STRING (INFOR = Info received) field. I.E you may decide to transfer the content of the INFOR to one of the standard field of the database like CQZ, ITUZ... Up to you!
- (if required) TRACK default value (overrides the current default of the Track field). Track may be used if the contest fields are not enough.

TX

- Serial number (numeric): starting serial number if incremental, otherwise default value
- Default value for the STX_STRING (INFOT or Transmitted Info). This may be your age, your CQZ, your Power or anything else!
- Default value for MISC reminder (MISC is like TRACK while MISC is fixed and NOT saved in the database).

Once you save the Contest settings by closing the dialog using the OK button, the corresponding settings become the **current contest's settings**.

Example

Cabrillo QSO template for Sweepstakes

```
                                --------info sent------- -------info rcvd--------
QSO: freq  mo date       time call       nr   p ck sec call       nr   p ck sec
QSO: ***** ** yyyy-mm-dd nnnn ********** nnnn a nn aaa ********** nnnn a nn aaa
QSO: 21042 CW 1997-11-01 2102 N5KO          3 B 74 STX K9ZO          2 A 69 IL
```

- nnnn: serial number
- prec: precedence (A, B, M, Q, S or U)
- ck: two digit check
- sec: ARRL Section abbreviation

Info rcvd (RX)

```
cccccccccc.nnnn.p.tt.iii
```

Info sent (TX)

```
cccccccccc.nnnn.iiiiiiii
```

In that case, data sent (p ck sec) are concatenated in the STX_STRING field of the database:

```
iiiiiiii
```

Data received ck is stored in the Track field (tt) of the database.

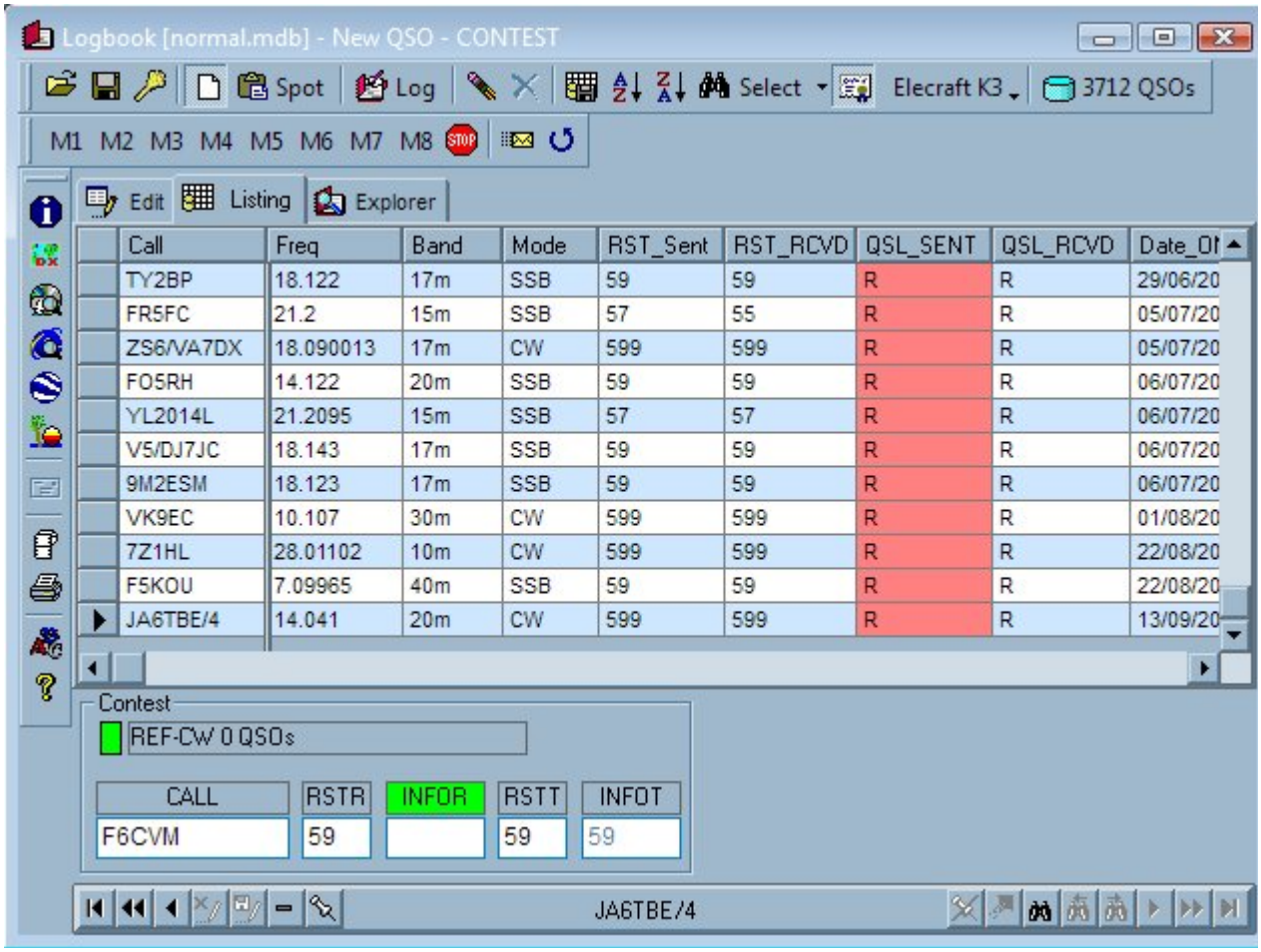
Logging during a contest

Once the Contest mode is configured, you may enable/disable the Contest mode using the Logbook's **Contest toggle** .

Appearance and behavior of the Logbook are slightly different than from the standard mode. In particular, the fields useful for the contest are displayed side by side and ordered in the Contest frame at the bottom of the window.

Please note Contest mode is designed so that creating a specific log file for a given contest is (absolutely) not necessary, but you can still create a specific log if you prefer.

The way of logging is essentially the same than in normal mode except that all entries can be done much more quickly using the Contest frame only. Please note: In Contest mode, TRX-Manager uses the **Expert's Logging mode** (warning messages NOT displayed).


Logbook [normal.mdb] - New QSO - CONTEST
Spot
Log
Select
Elecraft K3
3712 QSOs
M1 M2 M3 M4 M5 M6 M7 M8
Edit
Listing
Explorer
Call Freq Band Mode RST_Sent RST_RCVD QSL_SENT QSL_RCVD Date_Of
TY2BP 18.122 17m SSB 59 59 R R 29/06/20
FR5FC 21.2 15m SSB 57 55 R R 05/07/20
ZS6/VA7DX 18.090013 17m CW 599 599 R R 05/07/20
FO5RH 14.122 20m SSB 59 59 R R 06/07/20
YL2014L 21.2095 15m SSB 57 57 R R 06/07/20
V5/DJ7JC 18.143 17m SSB 59 59 R R 06/07/20
9M2ESM 18.123 17m SSB 59 59 R R 06/07/20
VK9EC 10.107 30m CW 599 599 R R 01/08/20
7Z1HL 28.01102 10m CW 599 599 R R 22/08/20
F5KOU 7.09965 40m SSB 59 59 R R 22/08/20
JA6TBE/4 14.041 20m CW 599 599 R R 13/09/20
Contest
REF-CW 0 QSOs
CALL RSTR INFOR RSTT INFOT
F6CVM 59 59 59
JA6TBE/4

Logbook in Contest mode
CW Toolbars activated
Dupes are indicated by a red square

Some useful shortcuts (*):

- Click « **Enter** » while the cursor is in the CALL field to populate other fields. The cursor moves to the next useful position,
- **CTR-S** or **F12** to Save a QSO, - **CTRL-I** or **F11** gives CALL field focus,
- **CTRL-N** to toggle New QSO/Edit mode,
- **TAB** to navigate from left to right,
- **F1-F8** to send a CW message CW M1-M8 (if **[F11-F8>CW MSG]** checked under Preferences/Logbook)
- **Ctrl-K** sends the current message
- **Ctrl-F12** stops the current message (if possible)
- **F11** gives Logbook focus from the main window.
- Eventually, if **Ultra Fast Logging** is checked (Preferences/Software/Logbook), **F12** or **Enter** populates the fields and save the QSO in one click.
- **Ctrl-Q**Cycle Button (CQ Sequencer)

(*) It may be usefull to display the **CW Toolbar** in Contest mode (See Preferences/Logbook).

How to ? A CW Contest

Prepare the following CW Macros:
M1 (F1) = TEST DE [MY CALL]
M2 (F2) = [HIS CALL] DE [MY CALL] 5nn[STX] TU
Now, a typical sequencing is:
- Type the call into the logbook (CALL field in green)
- Press Enter to populate the other fields (date, time...)
- Press F2 (M2) to confirm the call and send INFOT (report)
- Type your report into INFOR
- Press F12 to save this QSO
- Press F1 for a new call...

Statistics

In this current version of TRX-Manager, no detailed statistics are provided. However, you can get some useful information as follow:

- The CONTEST frame of the logbook always displays the number of QSOs for the current Contest
- The DXCC Info window displays the DXCC and VUCC statistics for the QSOs of the current contest ONLY
- From the Logbook's Explorer by checking the **Contest** option, you can have a hierachical view of the database (and various information) for the current contest.

Dupes

TRX-Manager DOES NOT automatically removes the duplicate QSOs from the database before exporting to Cabrillo. But you can avoid dupes or detect (and remove) the dupes as follow:

- While you log (clicking Enter), a RED square indicates a dupe and the DUPES window prompts for any other potential "Dupe",
- At the end of the Contest, you can detect the dupes using the Logbook's Explorer: Check **Dupes** option and Refresh the display by clicking . Dupes are listed by band. Clicking a Dupe selects all the corresponding QSOs from the database and they are displayed in the Listing tab for editing. You may remove a duplicate QSO or only blank the **CONTEST_ID** field in case of you prefer keeping it in your log

Cabrillo exporting

From the Logbook, click the save button and select Cabrillo **(.cbr**) format. No settings are required since TRX-Manager uses the current contest's parameters. If necessary you may edit the Cabrillo file (.cbr) to update some the personal data before you send the file to the sponsor.

Limitations

Contest mode may be improved in the future. In this version, limitations are as follow:

- Few pre-defined Contests (ARRL and REF) however most popular Contest can be supported with a manual configuration,
- No QTC mode,
- No detailed statistics,

Dupes are displayed during logging but not removed from the database.

Exporting and importing

Importing and exporting the Log book - overview

TRX-Manager is able to **export** data using ADIF (Amateur Data Interchange Format) and **CSV** formats (**Excel**). **ADIF** can be used to exchange with most other programs while CSV (Excel delimited text format) allows you to create various reports. **CABRILLO** is suported and required to submit your contest log to the Sponsor.

Note

- ***Importing*** *data using* ***ADIF***, ***LogWindows*** *and* ***TRLog*** *is supported (ASCII formats). Most other programs have the ability to export data in the ADIF format directly – which can then be easily imported into TRX-Manager.*
- *A small program provided with TRX-Manager:* ***DBFToADIF*** *makes it possible to convert* ***DXLog, EasyLog, TopLog***, ***LogPlus*** *and* ***TurboLog*** *files to the the ADIF format.*

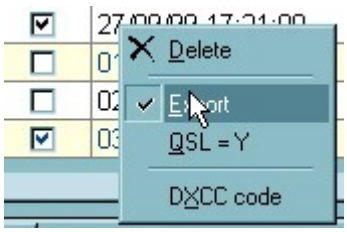
See also

- Logbook of The World (**LOTW**)

Export field

The **Export** field facilitates the selection of QSO's to be exported: TRX-Manager provides selective exporting by using the status of the logical **export** field (Checked/Unchecked). The Export field should be **checked** for any QSO's to export and **unchecked** for the QSO's not to export. When exporting or printing, a dialog box chooses the Export field status and what action to do after exporting (no action/uncheck QSO's).

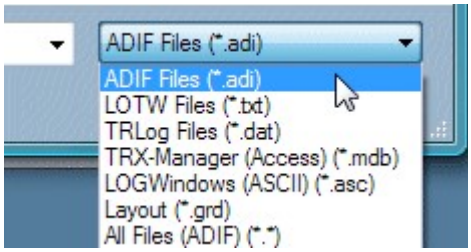
The Export value may be modified from the context menu (by right click) :



It is up to you to choose how you use the Export field: i.e to upload LOTW reports, to export your database periodically to a third party logging program, etc...

Importing

Importing is done by pressing the **Open** button of the Logbook ; the choice of the format is made through the Windows common dialog box (**Open...**) :



During import, the program may report **errors** (incorrect or empty fields) ; these errors are frequent but often without consequence. After the file has been imported, you have to perform a DXCC Update from the **Tools** menu in order to update the DXCC codes as well as CQ and ITU zones.

Note

- *The export field for any imported QSO will be filled in with NO (unchecked)*
- *Imported QSO's will be added to the current data base (LOTW report files excepted)*

Exporting

TRX-Manager exports to the **CSV** (**Excel**), CABRILLO and ADIF (Amateur Data Interchange Format) formats .

Exporting is launched by clicking the **Save** button of the Logbook the choice of the log format is made through the Windows common dialog box (**save as...**).

Once you have selected the file to export, the Export dialog prompts and allows you to choose the QSO's to export (by **Export** or **QSL_Sent** field status, **Date** and **Operator**), the required **conversions** for QSL fields = D and which **action** to take after exporting (no action/uncheck QSO's, update of QSL fields). You may also use and edit the last **SQL Query (SELECT)** to choose QSOs to be exported.

The **Export** button launches the process.

Notes

- *When exporting to a **ADIF** text file (.ADI extension), if the file already exists, it will be deleted and replaced with the new data*
- *When exporting to **CABRILLO**, you must have CONTEST mode enabled. TRX-Manager uses the current contest settings.*

Logbook Of The World

TRX-Manager can create files for submission of your logbook to the ARRL's Logbook of the world (LOTW) as well as update your database from an LOTW's ADIF Status report.See also : Logbook Of The World (ARRL)

Creating a file for submission

The **TQSL** program (V 1.13 or later) provided by ARRL must be installed and running on your computer. You must have access to the LOTW website and a valid certificate. No support can be provided for the use or configuration of the LOTW nor TQSL.

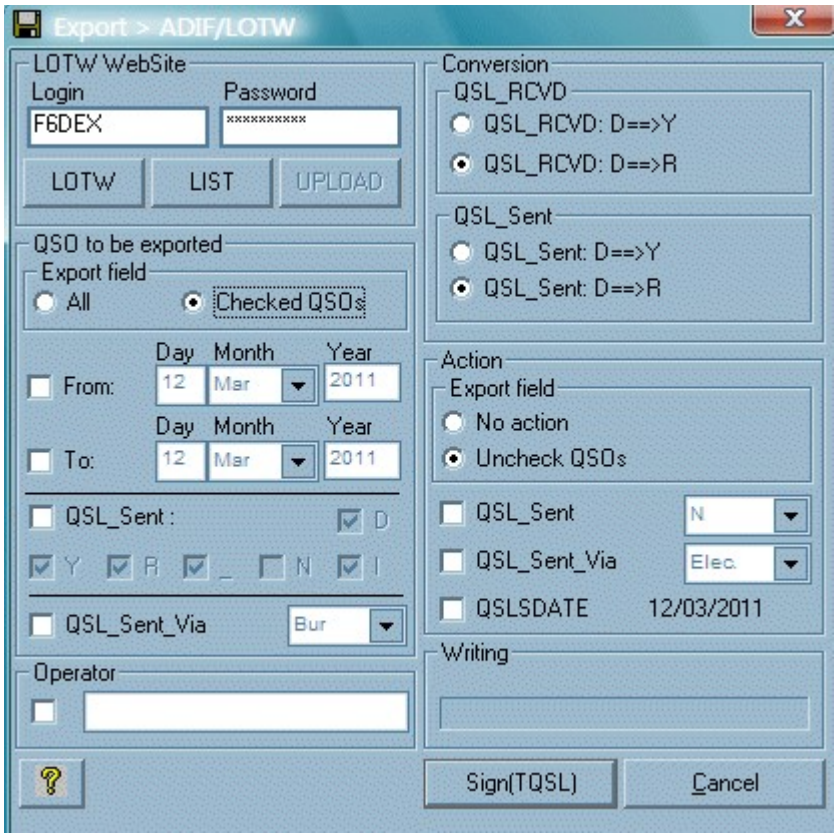
Manual submission

From TRX-Manager, you create an adif file and convert it, using TQSL, into a certified file (.TQ8) to be uploaded to the LOTW website. To create the ADIF file, please click the **Save** , choose the ADIFformat and type the name of the file to create. The Export dialog opens and you may have to choose some options as explained in the Importing/Exporting section. Please see TQSL instructions to continue...

Automated submission

TRX-manager automates the process making submissions to the LOTW easier (see notes below):

1. Exit TQSL if it is running,
2. Click the **TQSL**icon which appears in the Logbook's toolbar to open the LOTW Export dialog (1),
3. Choose your options as explained in the Import/Export section and also which **Action** to take after Export (2),
4. Type in the username (**Login)** and **password** required to log in to the LOTW WebSite (3),
5. Click **SIGN(TQSL)** : TRX-Manager deletes the previous submission files, creates a new adif file (LOTWEXPORT.ADI) using your options and launches the TQSL software allowing you to digitally sign your QSOs (file and data dialogs are skipped in that case),
6. Wait until TQSL ends and click **UPLOAD** to upload the certified file (LOTWEXPORT.TQ8) created by TQSL to the ARRLs' LOTW (4).



Exports only QSOs with Export field checked
QSO are unchecked after you click SIGNS(TQSL)

The **LOTW** button opens the LOTW WebSite using your login and password.

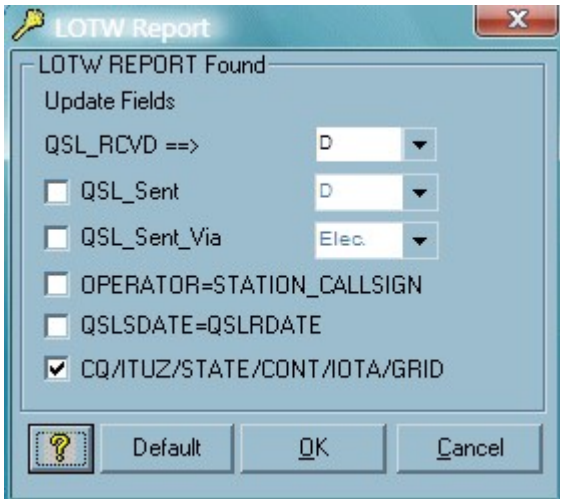
Note

(0) If TQSL is set up for "administrator mode", you must run TRX-Manager in administrator mode or set OFF UAC to launch TQSL from TRX-Manager (otherwise you get a TQSL Error)!
(1) the TQSL icon does not appear if TQSL is not properly installed,
(2) if you periodically submit your QSOs to the ARRL's LOTW, you may choose exporting from date to date or you can keep the Export Field for that use so that only the necessary data is exported - you may also set up the program to update the QSL_S fields after Exporting
(3) you should use the LOTW button to test the validity of your login and password before the first upload. The DEMO version does not save this information,
*(4) the **Upload complete** message at the end of the process does not mean your file has been accepted.*

Updating your database from LOTW

The ADIF format is required to exchange data with the LOTW. When you receive the status report from the LOTW in the ADIF format, click the **Open** button of the Logbook , choose the **ADIF (.adi)** (*) or **LOTW (.txt)** format and select the corresponding file. If a LOTW report is recognized, a dialog box prompts and allows you to choose how to update your database.

For all QSOs of the report, the QSL_RCVD field will be updated (to D by default, for Digital) and other selected fields may be updated too according to your options. However, if a QSO is already confirmed (QSL_RCVD = Y), it will NOT be updated.



QSL_RCVD is updated to D for all values of QSL_RCVD (Y excepted)
If the new digitally confirmed QSO has valid fields for
CQ Zone , ITU Zone, State, GridSquare, Continent or IOTA,
your database will be automatically updated with these values.

*(*) If you open a report with .adi as extension, **please make sure TRX-Manager recognizes it as a LOTW report and displays: LOTW Report found...** (and NOT "This action will add." .. which may add the qso to the database!).*

For a full report of the update, you may browse the (\Misc\)**LOTW_Error.txt** text file.

About the QSL_RCVD field

In TRX-Manager, the paper QSL (QSL_RCVD= Y) has the priority, consequently:

- *The QSO will be updated only if the paper QSL is not already received (i.e for all values of QSL_RCVD, Y excepted)*
- *When you receive the paper QSL, it is recommended you update the QSL_RCVD field to **Y** as usual*
- *When you update your database from LOTW, it is recommended you choose **QSL_RCVD ==> D** for only digitally confirmed QSOs (*)*
- *When you **export** the log (to any format including ADIF), the **D** is converted as per your choice (**R or Y**) meaning the corresponding information is lost. However, TRX-Manager creates a special ADIF field so that you can export/import from/to TRX-Manager without any change of your database.*

(*) Choosing QSL_RCVD=Y here is possible but prevents from further update of other fields and is generally not required since you always have to possibility to change D to Y while you export your QSOs to ADIF.

Anyway, for TRX-Manager a digitally confirmed QSO is ... confirmed!

Possible problem

A valid **Band**field is required. If your Band field is empty, please run the Tools/DXCC Update function. This function will format the Band field according to the Frequency field.

Installing the LoTW users list

You must use a text formatting list with only one call per line and no comment. You may compose a list yourself or download a list from the HB9BZA web site (select text, 1call/line, no comment) and may be other sites.

From the LoTW dialog (Logbook), click **LIST** and select the list using the text format (.txt). TRX-Manager creates a database (lotwusers.mdb) with (known) LoTW users and is configured. Now a * will be added in front the DXCC Status for each DX spot if the corresponding station is user of the LoTW.

EI4II 28.0200 WCNC [Ireland]
ST2AR 28.4836 big big signal *NCNC [Sudan]
Z21DXI 28.0050 TEST NCNC [Zimbab...
MM3T 28.0180 NCNC [Scotland]

ST2AR is user of LoTW

Notes

- *Available lists on the net are limited and not supported by ARRL,*
- *If you want to disable this feature, you only have to delete the lotwusers.mdb file located either in the main folder or \Misc.*

ADIF format

The ADIF format was created to permit easy and direct transfer of data between various amateur programs. For more information about ADIF please go to the Independant ADIF Site.

The DXCC Country code

Please note that TRX-Manager transfers/reads all the fields including the DXCC field using the ARRL country code in accordance with the ADIF specifications. In order to use this ability, your log software must be able to support and translate this country code to the code as a DXCC country. This functionality is not supported by all software...

If your log software doesn't use the DXCC code, the corresponding field will be empty or filled in from the prefix : in this case you may have problems as a lot of radio prefix's amateurs are not in accordance with the ITU allocation.

Inversely, if your log software doesn't support the DXCC code when importing, TRX-Manager will not be able to recognize the DXCC country. In this case you will have to perform a DXCC Update and manually edit some QSOs to select the right DXCC country.

Valid ADIF codes are necessary to determine your DXCC award.

Binary data

TRX-Manager can NOT read ADIF files including binary data. If this is the case, please turn off export of any binary field (such as GUID... in LOGic).

Terminal

Terminal overview

The terminal module provides text-data exchange and processing of DX-Spots through a multi-mode controller (**TNC**) and/or via **Telnet**.

The Terminal features are

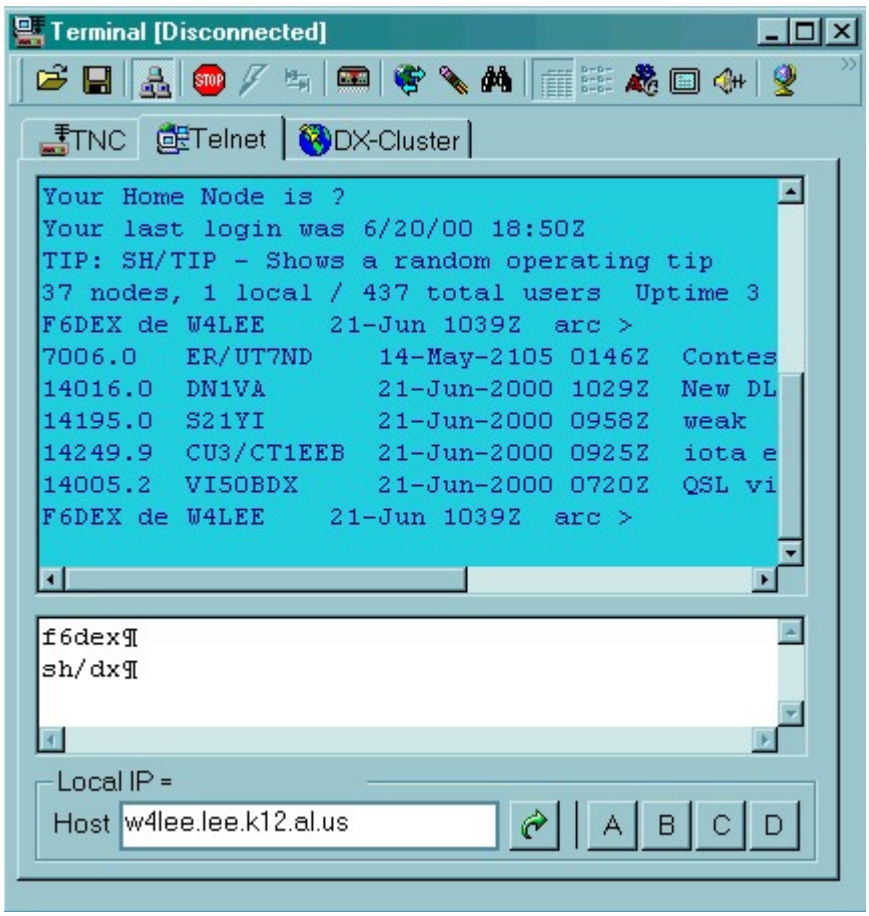
- **Packet** and **Telnet** DX Cluster interfacing
- DX Tracking
- customizable sound announcements
- Active **double click** from the Terminal frame
- Function buttons
- Remote control of a rig via packet
- DX Spots broadcasting
- DX-Spots forwarding via EMail (**DX-Mail**)

Please see also

- Setting up TNC parameters
- Telnet connections
- DX Spotting
- Link with Telnet clients

Overview

The terminal module opens from the main toolbar or using the **File/Terminal,** submenu .



The **sizeable** terminal window shows 4 tabs:

- The **TNC** tab is used to communicate with the controller,
- **Telnet1** and **Telnet2** tabs are used to establish Telnet sessions
- The DX Cluster tab displays the **DX spots** if you are receiving data from a DX Cluster.

You type the text to send in the lower area (TNC Telnet1 Telnet2 tabs). As a default, each **carriage return** sends the data inside the two last end of paragraph characters (¶) to be sent.

This module also provides text-data exchange with the Windows clipboard: A right click opens a contextual menu : **copy** may be selected in the upper area (received data) and **cut/copy/paste** in the lower area (data to send).

Packet

To send a break signal (**Ctrl+C** or **Escape**) , you have to press the following tool bar button . If< **Escape**> is the command, the terminal displays ***** to show that you have to enter a command.

If the **DCD line** of your controller or TNC is wired, TRX-Manager displays the connection status in the title bar (and in some cases, the connected station call). If the DCD is not wired, **disconnected** will be displayed without any other consequence. Any disconnection generates the **Hand** sound system.

Telnet

You have to enter the **IP address** or the name of the computer into the **Host** text box under **Telnet1** or **Telnet2**; then click the **go to** button in order to establish the connection. (See also Telnet connections)

Special functions and features

Different special features may be accessed from the **tool bar**, the **lower frame** or by **double clicking** on the receive window.

Open text file : this button causes the corresponding text-data to be inserted in the lower area. Then the text may be edited and sent with one or more carriage return.

Save buffer : this button saves all text-data already received in a text file.

Connect (Toggle): this button connects or disconnects the specified **Host** (Telnet). The status of the button indicates the status of the connection.

Stop scrolling for 5 minutes (toggle): When depressed, the software stops scrolling. It resumes after 5 minutes.

Break signal : this button sends the signal command : **CTRL C** or **Escape** (see **SETUP**) to switch the TNC to the command mode (TNC) .

Type ahead (toggle): If depressed, each character is sent when typed. This mode may be useful when operating CW or RTTY (TNC).

Automatic QSY (toggle): after each new spot, the software **automatically QSY's**your rig to the corresponding frequency and stops the screen saver (Preferences). Keying down from the TX or the program automatically disables this function (only if the monitoring screen is active). The drop-down button allows you choosing the corresponding spots between *All*, *Needed* or totally *New One.* IF **AF gain** control is supported and according to the status of the Main toolbar's **Tools/DX Squelch** button , AF is set to its previous gain for the **delay** specified under the **Preferences/Transceiver/Band Plan** tab.

DX Spot to send: this button opens a dialog box from which you compose a DX-Spot to send to the DX Cluster

Broadcasting toggle: provides broadcasting of DX Spots received from a Telnet server via Packet

Clear buffer : You should use this button to clear the receive buffer if you suspect a lock up..

Search for text : this button provides a search for a text string. Please note that this function stops scrolling.

Sound announce (toggle): Toggle to switch on/off the sound announces for particular messages or Spots such as defined under **WAV** tab (**Preferences** dialog box).

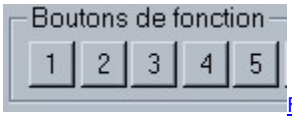
Change font : this button allows you to choose a convenient font. You should choose a non-proportional font such as **Courier New - System - Terminal - Fixedsys** to have good text alignment.

Full window (toggle): This buttons stretches the receive area so it fits the window.

Azimuthal projection : this button creates an **azimuthal projection** from the 25 last DX-Spots.

: **Detailed** or **Icon** report (+ resets columns to the default width).

PKT (TS-2000 Only): This button toggles the TS-2000 into PKT mode (CAT is disabled).

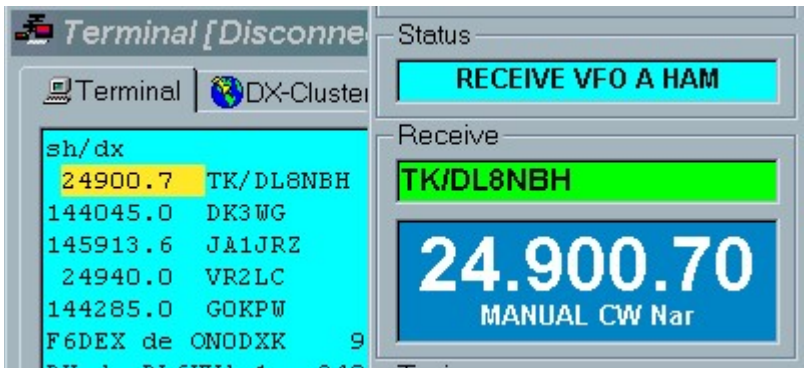


Function buttons (**1-9 A-D**) : for each button, a right click allows you to program a function. Then a simple left click on the button sends the corresponding command.

WD : Watch dog (CR sent to the server every 2 minutes).
REC : Auto-reconnect. Allows an automatic reconnection almost as soon as the current connection is lost (requires **WD** ON and auto-logon at startup defined)

Double click : a **double click** of a string (text) in the receive window performs specific functions :

- **message number** : sends this message to the server> reads the message (r xxxx)
- **frequency (KHz)** : QSYs the transceiver (below, sets 24.9 MHz and current info = TK/DL8NBH)



- any **call sign** : opens the DXCC window
- **your call sign** : sends this message to the server > lists messages for you
- **DX** : opens the spot dialog box
- **any other string** : sends the corresponding command (string) to the server

Setting up the TNC parameters

Setting the serial port is made via the **Parameters/Setup** dialog box under **Terminal**. First check the **TNC Enabled** option then read the manual of your controller (…) to determine parameters such as : **speed - parity - data bits - stop bits.** It is best to choose a high speed baud rate such as **9600 or more** to avoid the slowing down of the communication loop with the transceiver.

An important parameter is the command signal used by your TNC to switch to the **command mode** : check < **CTRL C**> for TNC 2, PK232, KAM ; check < **Escape**> for DK9SJ's modems (TNC2S/H/3S… with **TF** Eprom).

In some cases you may have to check **Add LF** to automatically add a Line feed (**LF**) after a carriage return (**CR**) ; please check this option only if frames are not properly displayed.

Priority to CAT is usually **NOT** checked. In some rare cases (probably with some older transceivers operating at slow speed), checking **Priority to CAT** may increase the fluidity of CAT control and the stability of the software : communications with the TNC are then processed only after all data coming from the transceiver are received. Please note, in case of this option is checked, opening the terminal window is not possible without opening the monitoring window !

From the **Preference** submenu, under **Terminal**, You also have to choose between the **DX Cluster** (default) and **Clusse Dx Cluster** formats for the DX spots. Be sure to check the right option.

Troubleshooting

Most problems are coming from a wrong speed (Setup) or from a wrong mode (TRX-Manager doesn't support any Host mode). Read carefully the manual of your TNC ... Try to increase the speed to the maximum available value and disable the Autobaud mode on the TNC.

See also

- Troubleshooting guide: serial port and communications
- On line tech support:http://www.trx-manager.com/support

Telnet connections

The Terminal of TRX-Manager makes it possible to establish two **Telnet** sessions (**TCP** protocol) simultaneously with distant computers/servers over Internet or a local area network.

Internet Configuration

You must check that your Internet connection is correctly configured and functions: you can configure the Internet connection from the Window's configuration panel (Internet options) or from Internet Explorer (Tools/Options). It is generally necessary to disable the proxy for Telnet connections; moreover, if you use a **Firewall**, it will have to be to set not to block the Telnet connections established with TRX-Manager.

Establishing a connection

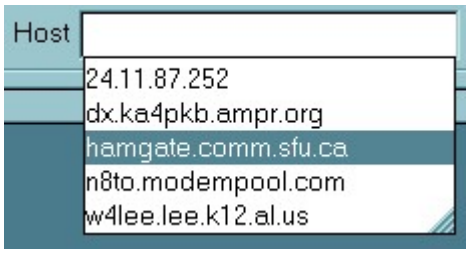
To connect you to a distant computer, you must know either its **IP address** or its **full name** and the **Port number**.

IP address is a succession of groups of digits separated by dots (**xxx.xxx.xxx.xxx**). In general, the full name of a computer is much easier to remember.

Port number is **23 by default** for Telnet but may be embedded in the IP Address: xxx.xxx.xxx.xxx**:yyy** where yyy=port; i.e 193.191.136.222:8000 allows connecting 193.191.136.222 through Port 8000. If the Port number is embedded in the IP address, TRX-Manager uses this port. Otherwise TRX-Manager uses the default port number which can be modified from the **Preferences**, **Terminal** tab.

You enter the full name of the computer or its address in the **Host**field of the Terminal (**Telnet1** or **Telnet2**tab) and you press the **go** button to establish the connection.

The Host text box maintains a history list of everything typed ; you are able to choose previously entered items by selecting them from the list. To delete an item, select it and press the DELETE key on your keyboard. To display all items, clear and double-click the text box.



When the connection is established, the button appears as pressed ; to close the connection you can press again this button or type **Q** in the transmission window of the Terminal.

At the bottom of the window, a **WD** button activates a Watch Dog (CR sent to the server every 2 minutes). If auto-connection at startup is selected (see below), the **REC** button allows an automatic reconnection almost as soon as the current connection is lost.

The main status bar of the program displays the system messages (especially errors related to telnet connections).

Addresses of DX-Cluster servers

Various DX-Cluster servers are accessible by Telnet. You can check the Internet for up-to-date addresses.

Auto connection and logon at startup

Automatic connection and logon to the DX Cluster is configured under Parameters/Preferences/Terminal/Auto Connect. Your choice of Telnet 1 or Telnet 2 is selected by the check box next to #1 or #2 under Auto Connect. If you only specify the Host IP, TRX-Manager connects Host, logs in after the string **Login:** is received and uses your registered UserID as CallSign.

For more flexibility in the event **you need to use a ssid after your call** or a different callsign, **or if the cluster uses a different string (other than login:) to ask for the userid**, the command window connect string basically follows this format:

```
DX CLUSTER IP/TEXT GREETING FROM DX CLUSTER/YOUR CALLSIGN
```

In order to configure TRX-Manager, please examine carefully how you cluster ask for an userid.

Below are examples.

1) This cluster send this string: "*Please enter your call:*". The syntax is:

```
dxcluster.no-ip.org/Please enter your call:/MyCall
```

2) This cluster send "*Login:*" (this is the default for trx-manager). If you don't need a specific ssid, the syntax is only:

```
dxcluster.no-ip.org
```

3) This cluster send "*Login:*" (this is the default for trx-manager). But you need a specific ssid (a special callsign), the syntax is:

```
dxcluster.no-ip.org/Login:/MySpecialCall
```

4) If the cluster requires a password, just add /xxxxxx after the callsign (xxxxxx is the password) :

dxcluster.no-ip.org/Login:/MyCall/xxxxxx

Operation as a Client/Server

By default, the Terminal only functions as a Client and does not process connection requests.

Remarks concerning security

- *Telnet connections are not secured*
- *Communicating your IP address on the network exposes you to malevolent intrusions,*
- *Attempting to connect to a server for which you do not have access rights may be regarded as an intrusion and exposes you to possible prosecution.*

Function buttons

Programmable commands are available to control the TNC by using the Terminal's function button (**1-10**, **A1-H1**, **A2-H2**). For each button, a right click allows you to program a function. This feature may be useful to send iterative commands such as **sh/u, sh/dx, c my_dxcluster...** Then a simple left click on the button sends the corresponding command.

Check **CR** to add a carriage return and to **send the command**

Check **CMD** to prefix the command with a **break signal**

Type the text and, if necessary, insert a control code inside brackets **{ }** (Decimal ANSI value) ; this feature allows you to send special commands to the TNC.

Example

- ***{3}*** *to send a break signal*
- ***{13}*** *to send a carriage return (*)*
- ***{7}*** *to send a bell*

*Click **OK** to validate the command.*

(*) the {13} sequence doesn't allow you to send the command. This code may be useful to add a carriage return inside a text or a succession of commands.

Watch dog

- The **WD** button activates a Watch Dog function (CR sent every 5 minutes).

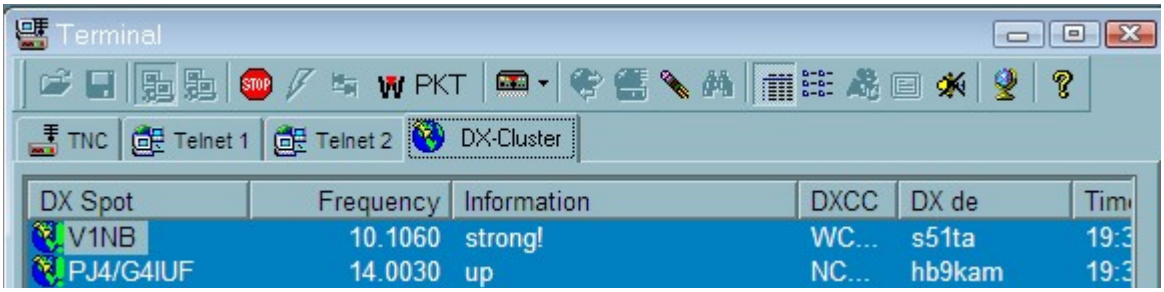
DX Cluster ™

If you connect a **DX-Cluster** through the Terminal module (via the Internet and/or Packet radio), TRX-Manager analyzes and displays the DX-Spots under the Terminal's DX-Cluster tab; Telnet and Packet Spots are aggregated: Telnet spotters are displayed in lower case and Packet spotters in upper case.

Packet: You don't need to be connected to the cluster to use this module. TRX-Manager understands informations exchanged between nodes (PC11 spot format).

Telnet: You can connect up to two DX Telnet clusters simultaneously. However, generally, this is not useful because all Telnet clusters display the same dx-spots with a slight delay.

Each new spot is also displayed in the lower frame of the Terminal screen and in the status bar.



Terminal's DX-Cluster tab
Double clicking Spots sets the transceiver and a right click opens a comprehensive context menu.

See also

- Setting up TNC parameters
- Telnet connections

Preferences for DX Spotting

(Preferences/Terminal & Preferences/DX Spots tabs)

Terminal tab

- **Load Spots** forces TRX-Manager to load DX Spots of the previous session at opening of the Terminal (not recommended),
- **Spot status** (recommended) DXCC Status of Spots are computed/displayed according to your current logbook database,
- **DE<...** spots send by Spotters outside of a 5000Km radius (default) are ignored,
- Max **Distance** of spotters in Km (default =5000)
- **Server data** : distance to Spotters calculated using server data if available (prefix database by default)
- **BlackList** enable/disable the DXSpot and Spotter's blacklists
- **Telnet port** defines the default Internet port (see also Telnet connections)
- **AF Auto-QSY** If **Stops Saver** is checked, TRX-Manager disables your screen saver accordingly.
- **Auto-connect**: see Telnet connections
- **CW Skimmer**: see CW Skimmer interface

DX Spots tab

- **Band/Mode filters**: TRX-Manager provides filtering by Band and Mode as follow:

  *If **Auto** is checked, TRX-Manager rejects spots outside of the frequency range of your transceiver.*
  *If **Manual** is checked, you can select specific bands*
  *If **HAM** is checked, TRX-Manager rejects spots outside of HAM segments (as defined in Band Plan)*
  *Filtering by Mode is provided: please note **TYPE** of transmission (Phone, CW Data, Beacon...) is used for this filter (see also Band Plan)*

- **Comment/RTTY/PSK** (Digital modes):allows you to define the mode by default for RTTY and PSK (FSK, SSB, Data) if RTTY or PSK is available in the comment field. An Offset can be defined to calculate the correct carrier frequency in SSB. If you use a digital software, the modem mode is set accordingly. If you select Plan, TRX-Manager does nothing else that setting the mode according to the band plan. (In principle Offset=Mark frequency in FSK).
- **Comment/Auto QSX** Auto-QSX provides detection of Split (Up 1, QSX...) if such information is available in the comment field,

- **Log filter** if checked any call that is logged already (Worked and/or Confirmed) in your database for the same band AND mode which equal the spot received will be ignored. Select None to disable this filter.
- **DXCC Filter/Needed for** (DXCC) your preference for DXCC by Mode or Band defines Icons for **new mode/band** and **confirmed** . Band is recommended. If **Show All** (no filter) is checked, all spots are displayed whatever their DXCC Status.
- **+IOTA** all Spots with a IOTA number in comment will be displayed whatever their DXCC Status (this options is grayed ou if display all is checked since in that case, all spots are displayed)
- **+Trackink List** all Spots of the DX Tracking List will be displayed whatever their DXCC Status. An alert (sound) can be set up from the Preferences/Wav dialog for these particular spots. By clicking the **[TRACKING LIST]** button, you can define up to 10 callsigns.
- **DX-Mail** (advanced) if checked, the internal mailer forwards DX-Spots via EMail. You can select only newone and/or needed or Spots of the tracking list . The DX Spots can be send as soon as received (immediately) or each 5/10 minutes. Since a large amount of emails can be interpreted as spamming by your SMTP provider, the **Each 5 minutes** option is recommended.

Notes

Options under the DX-Spots tab are also applicable to WebCluster spots.

*How is working the DXCC filter ? If **Show all** is NOT checked (default) and Country is confirmed in this **Mode AND this Band**, the Spot is NOT displayed.*

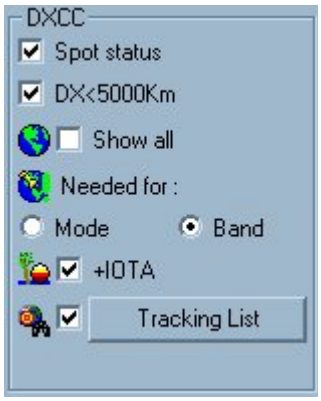
Significance of the icons

If **Spot status** is checked in the Preferences, an icon is assigned with each spot. This icon can be seized with the mouse to initiate a drag and drop operation. Moreover its appearance informs summarily about the status of the corresponding country (**QSL**) related to the DXCC Award.

new one : the country is not confirmed in any mode (or any band)
needed (new mode or new band): the country is already confirmed but not in this band or this mode (1)
confirmed : on this band (but not in this mode) or this mode (but not on this band) (2)
confirmed + IOTA detected (3)
spot of the DX Trackink list (unfiltered) (4)

*(1) according to your option (**Needed for**) defined under **Preferences/DX-Spots***
(2) opposite condition of your option Needed for...
*(3) if **+IOTA** checked under Preferences/DX-Spots*
*(4) if **+TRACKING LIST** is checked under Preferences/DX-Spots and the callsign is listed is in the DX Tracking List.*

Example



***Spot Status** is checked (default). TRX-Manager computes the DXCC Status for all Spots*
***DE<5000km** is checked (recommended). All spots coming from a spotter outside of a 5000km range will be excluded*
***Show All** is Not checked (recommended). The DXCC Spot filter is enabled. Any unneeded DX Spots for the Band and the Mode are rejected.*
***Nedded** for **Band** is checked (recommended) : green icon (Needed) is computed according to the Band*
***+IOTA** and **+TRACKING LIST** are checked. All Spots with a IOTA reference and any spot of the DX TRacking List will be displayed whatever their DXCC status.*

Alarms

Different alarms are possible (see sound announces):

- for each spot ,
- for a new one or needed spot ,
- for a tracked spot .

For each alarm you have to define the Wav file to be played from the Prefrences/Wab tab and to place this file into the TRX-Manager\Wave folder.

Make sure the Toolbar's Sound Toggle of the Terminal is ON in order to enable the sound announces or alarms.

DXCC Award status

If **Spot Status** is checked in the Preferences/Terminal, in addition to the assignment of an icon to the new or confirmed countries, the program displays a more comprehensive (coded) information:

DX Spot	Frequency	Information	DXCC	DX de
MJ/DH8WLA	14.0201		NCNC [Jersey]	OE3KAB
EA1AHO	3.7800	CQ DX	NCNC [Spain]	EA1AHO
ZL3NB	3.5050	Tnx Bill	NWNC [New Zealand]	G3PYI
ZL3SV	3.7990	Garry	NCNC [New Zealand]	GI0VJE
ZL3NB	3.5049	txn new band Bill, gl	NWNC [New Zealand]	DF3VM

DXCC Column

The DXCC Award status for each spot is coded on 4 characters as follow : **ABCD**

__A__ : Confirmed (C), Worked (W), New (N) for BAND
__B__ : Confirmed (C), Worked (W), New (N) for MODE
__C__ : Confirmed (C), Worked (W), New (N) for BAND+MODE
__D__ : Confirmed (C), Worked (W), New (N) for all BANDS and MODES

DXCC Country is displayed in clear. If more than one DXCC Country is possible for a given prefix, a **?** appears.

If the LoTW users list is installed, ***** is added in front of the DXCC status for each user of LoTW.

Saving the spots

The program keeps the last 90 spots in memory and on hard disk (**DXCluster.txt** file).

So the spots of the last session may be recalled for each opening of the terminal screen: this is an option (**Load Spots.**) you have to choose from the **Preferences/Terminal** tab .

Sending an announce

To announce a new spot, you have to press the **spot** button of the Terminal's toolbar. The dialog box helps you to compose your spot by recalling all the necessary information. A **frequency button** allows you to recall the current frequency.

If **Split** is ON, the comment field is filled in with **QSX** and the TX frequency. **DX GRID>YOUR GRID** can be added to the comment (V/UHF) if the DX has just been logged.

Notes

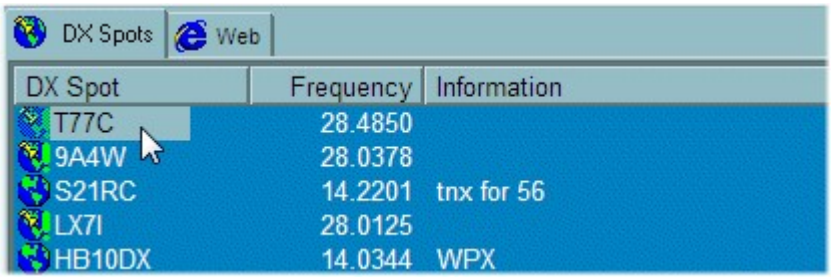
- *Always give the frequencies in **KHz,***
- *Understand that if you announce a spot that is just logged and the **Worked** option is checked under **Log Filter** (Preferences/Terminal) your spot will NOT be displayed...*

Azimuthal projection

When pressing the **DX Spot** azimuthal projection button , TRX-Managers shows a window where the last 25 DX-Spots are projected according to their distance and azimuth position (see DXMap). When a new spot is received, the projection is automatically refreshed.

Setting the transceiver

You only have to double-click the callsign of the spot in order to set the transceiver to the spot frequency. You may also right click the spot and select **QSY** in the context menu.



If a Split condition is specified in the comment field, a powerful algorithm (but not infallible !) calculates the TX frequency and sets the transmit frequency with the correct offset. If you don't like this feature you have to uncheck the **Auto QSX** option (**Preferences** under **DX-Spots**).

If **RTTY** is specified in the comment field, the transceiver can be set to a specific mode such as LSB or FSK... to select from the RTTY frame (Preference/DX-Spots tab). In addition, depending on the way RTTY is generated, a **Shift** with the spot frequency can be set.

According to the status of the Main toolbar's **Tools/DX Squelch** button (if RX is muted), AF Gain (if supported) is set to its previous value. RX mutes after the **delay** specified under the **Preferences/Transceiver/Band Plan** tab.

Sorting the spots and particular functions

Sorting the spots by any field is available. You have to click the corresponding column header. This feature may help you to find a callsign or to check for a specified band activity.

A right click on Spot opens a context menu and allows you to activate various functions :

- instant **QSY**
- transfer to a sub-transceiver (if supported)
- displaying DXCC
- displaying CD-Rom (QRZCallbookBuck)
- launching DX-Atlas, Go-List HAM Cap ...
- searching or direct logging :

- **BlackList**: this function opens the black list of spots and spotters. The selected DXCall and/or the Spotter may be added to the blacklist by clicking . The blacklists can be edited. The button deletes the current entry while the button clears the whole list.

Tips

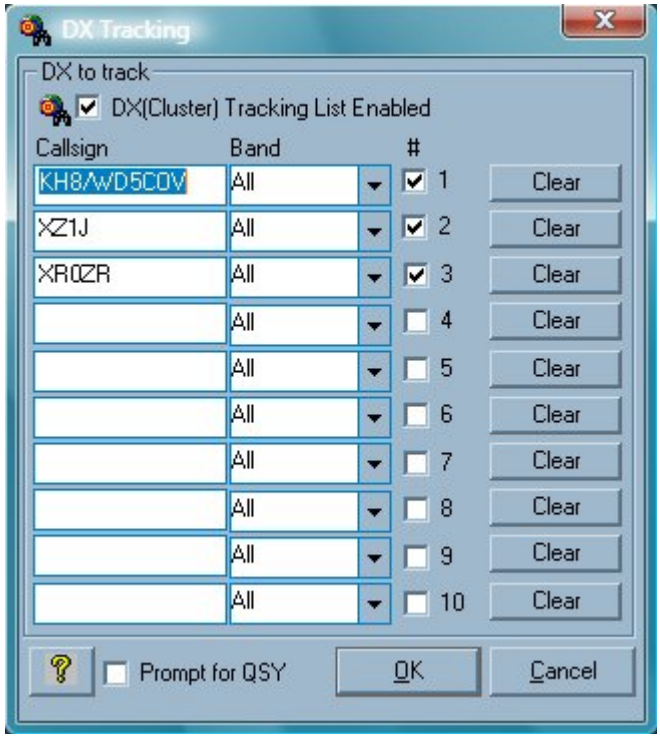
Wen you click a spot, the DX-Spot Callsign is copied into the Windows clipboard and is available for being pasted into any other program.

See also Drag and drop: drag and drop of spots are supported into a list of frequency, the Logbook logbook, the DX Map ...

DX Tracking List

TRX-Manager allows you to automatically track of particular callsigns through the DX Cluster spots, or the Web Cluster spots ; it may be DXpedition-stations, special callsigns, friends...

Initializing of the DX Tracking list is done from the **DX Tracking** dialog box (**Tools/DX Tracking** submenu or from the Preferences/Spots tab). You have to define the full callsign to track and select the **band**(or All bands). If a DX-Spot matches one of the Callsigns of the list, it will be displayed in the DX-Cluster or Web-Cluster whatever its DXCC Status with this icon .



DX Tracking List

Options

- **DX(Cluster) Tracking List enabled**: List enabled for DX-Cluster Spots (Default)
- **Prompt for QSY**: When the Callsign is found , a dialog box appears and allows you instant QSY.

Sound announcement and alarms

You may associate tracked callsigns ( ) with a sound announcement by defining the corresponding WAV file from the Preferences/Wave tab.

The internal mailer can forward an alert via EMail as soon a tracked spot is received : please configure the **DX-Mail** frame under **Preference/Terminal**.

Sound announces

Ability to play **WAV file** for **sound announcement** when receiving **DX-Spots** or **particular messages** from a BBS or Cluster is given. TRX-Manager is not provided with any WAV file : you have to create these files and to fill in the corresponding parameters of the **Preferences** dialog box under **WAV** tab. Wave files must be located in the **TRX-Manager\Wave** folder (see note about the UseMyDucuments option).

Please avoid using WAV files more than 25 K.

> ***Note***
>
> *All sound effects may be disabled/enabled by unchecking/checking the **Sound** checkbox (**Preferences** under **Software**).*

If these WAV files are not found, by default, TRX-Manager plays the system sounds **Exclamation** or **Asterisk**. The settings for these sounds are done from the Windows configuration panel.

Sound announce when receiving a DX-Spot

You have to put the WAV file to play (**DX.WAV** by default or **Exclamation**) into the TRX-Manager's folder, then, if necessary, to fill in the corresponding field. The WAV file will be played as soon as a new spot is received. By checking **Needed** and/or **New One**, a file (to be defined) may also be played when a *required* and/or *totally new one* country is announced on a Cluster.

Sound announce associated with DX tracking

You have to put the WAV file to play (**GONG.WAV** by default or **Asterisk**) into the TRX-Manager's directory, then, if necessary, to fill in the corresponding field. The WAV file will be played as soon as a DX to track is found.

Sound announce associated with a QSO Before

You have to put the WAV file to play (**QSOBefore** by default or **Exclamation**) into the TRX-Manager's directory, then, if necessary, to fill in the corresponding field. The WAV file will be played when a callsign is found in the LogBook.

Sound announces for a particular message

It may be interesting to define a sound announce for a particular message (received in the Terminal) or event such as : particular callsign, disconnection… You may define up to five messages and their corresponding WAV files. Each message must be more than three characters long (caps on or off).

> ***Example***
>
> *You wish playing the **MAIL.WAV** sound announce when receiving (in the Terminal) the following message : **You have new mail from***
>
> *You have to enter the following parameters :*

> *Now as soon as "**You have new mail from**" is received in the Terminal, the program plays **mail.wav**. If the WAV file doesn't exist, TRX-Manager plays **Asterisk**.*
>
> *If you are not connected to a station you should disabled this feature by **unpressing** the **Sound** button of the Terminal tool bar.*
>
> *If the **DCD line** of your controller or TNC is wired, TRX-Manager is able to disable/enable this function according to the connection status.*

DX Spots Broadcasting

TRX-Manager allows you broadcasting DX Spots received from a Telnet server via Packet.

To engage this function, please select the **Telnet** tab and click the **Broadcasting**toggle . A dialog box allows you choosing how to filter the spots, if a **repetition** is required and the **delay** (milli-seconds) between each transmission (500ms is generally recommended to separate spots in distinct packets).

To disengage this function, please press again the Broadcasting toggle.

Notes about Repetition and Delay

- *In connected mode, you don't have to set up the program for a repetition ; the delay may be very short.*
- *In unconnected mode (UI frames), setting up the delay carefully is required for the best efficiency of the transmission.*

Link with Telnet clients

Running a Telnet client and getting the DX Spots into TRX-Manager is possible provided your Telnet client supports TCP/IP links. Some programs can support TCP/IP link with TRX-Manager:

Some programs can support TCP/IP link with TRX-Manager

- AR Cluster : http://www.ve7cc.net/
- DXTelnet : http://www.qsl.net/wd4ngb/telnet.htm
- CW Skimmer

Generally, if you run the program on same computer, all you need is your **Local IP** address (such as 127.0.0.1) and the Internet Port number. If you connect FROM your Telnet client, you must set up the port number from the Preferences/Terminal of TRX-Manager.

Sequence for DX Telnet

The following sequences provided by **Fabrizio IK4VYX** author of **DXTelnet** have been successfully tested. Please:

1. In the **Site list** select **ACCEPT** and click the **Edit** button at right :

1. under **Site Name**, rename ACCEPT as **ACCEPT_2**.
2. under **Service port** (set to 80), check **Telnet**.
3. **Service Type** must be set to **Other**.
4. click the **Edit Script** button. In the last line of the script, remove the comment character in front of /F RELAY so that from **'/F RELAY** becomes **/F RELAY**.

2. Close all dialogs (click OK) and quit DXTelnet.

3. Restart DXTelnet and select ACCEPT_2 in the Site list ; press Enter. You will see a message saying *waiting for incoming connections* and an **IP** number which is your IP number. Write down this IP number.

4. Start **TRX-Manager**and its Telnet terminal. From the **HOST** text box, connect to the IP number that you wrote down. Login into the DXTelnet shell by typing your callsign.

6. Now, start a second DXTelnet session and connect to the **CQDX-IRC** node. CQDX-IRC Spots should start flowing into TRXManager.

Notes

- *writing down the IP number each time might not be very convenient : if you telnet from TRXManager to **127.0.0.1** while ACCEPT_2 is active, it should work in most cases.*
- *you may automate DXTelnet with one click. The **launcher** utility, embedded in DXTelnet, can be configured to start both ACCEPT_2 and CQDX-IRC automatically with one click. So, once configured, the link between the two applications would be fast and easy*

Web Cluster

Web Cluster overview

The software processes DX-Spots available on some **Internet WEB Clusters (http)**.

Tip

In most cases, it is more efficient to connect a DX-Cluster via Packet or Telnet using the Terminal. The Web Cluster (by default) does not require any configuration... but interactivity is limited + the recent WebClusters are now using proprietary "push" modes that are not compatible with third party applications or requires a complex configuration.

Unlike WebClusters, the telnet DX Clusters offer much more features and above all an instant information what is of great importance for DXIng...

Internet Explorer (IE 4 or later) is required on your computer.

Related Topics

- Web Cluster's Spots
- Watch List (advanced users)

Supported WebCluster servers

TRX-Manager is compatible with the following servers:

- New DX Summit http://new.dxsummit.fi (see note 1)
- DXScape: http://www.dxscape.com
- Simon's DX Cluster: http://cluster.sdr-radio.com (see note 2)
- DX Summit (**discontinued**): http://oh2aq.kolumbus.com/ http://www.dxsummit.fi/
- Asia Web Cluster (**discontinued**) : http://dx.bgtelecom.ru

Of course Web Cluster spotting requires a connection to the Internet. TRX-Manager uses the **Windows's default parameters** for this connection. If you use a **Firewall**, it will have to be to set not to block the Internet connections established with TRX-Manager.

Notes

(1) *New DX Summit requires you use the API commands with a CSV content (**content_type=csv**). The TRX-Manager's default URL is for **ALL Spots** as follow:*
http://new.dxsummit.fi/api/v1/spots?content_type=csv

*You can add filters using the APIs **&Include= &Exclude=** as follow:*

- To include HF only (&include=HF):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&include=HF

- To exclude UHF, SHF(&exclude=VHF,UHF,SHF):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&exclude=UHF,SHF

- To include 5MHz only (&include=5MHz):
http://new.dxsummit.fi/api/v1/spots?content_type=csv&include=5MHz

- To obtain the last 100 spots (&limit= 100) onHF
http://new.dxsummit.fi/api/v1/spots?content_type=csv&limit=100&include=HF

Practically when you use the Web version of DXSummit, you can see your current filter as a query string in the URL field of your browser. The full description of the API commands (query strings) can be found in the DX Summit Tutorial
http://new.dxsummit.fi/#/tutorials

(2) *Simon's DX Cluster requires you use the CSV file format, i.e http://www.ham-radio.ch/dxc/top_50_all.csv (default). See also the API's tutorial Home/Technology)*

Setting up the Web Cluster

Web-Cluster requires some parameters to be entered from the **Preferences/Software/Web Cluster** tab as follow :

- **HTTP** addresses (URL) for spots. You may customize, for the supported WebClusters, the URL which matches your personal choices but it is preferable to avoid an URL with more than 250 spots. Default parameters are for :

  (1) DXSummit (Spots ALL 50)
  (2) DXScape (Spots WW ALL 25)

- **Delay** between automatic downloads (applies if **Auto** option and/or the WebCluster's auto button is checked)
- option for **automatic downloading** : spots from **(1)** or **(2) URLs**
- **Stacked:** if checked, Spots from successive downloads accumulate (but TRX-Manager checks for duplicates)
- **Spot status** (recommended): DXCC Status of DX Spots are computed according to your current logbook
- **MAP auto**: DX Spots are displayed on the TRX-Manager's DX Map
- **Load Spots**: forces TRX-Manager to keep spots in memory between sessions (not recommended)
- **DE<...** : DX Spots send by Spotters outside of a 5000Km radius (default) are ignored
- Max **distance** for Spotters in Km (default=5000)
- **Server data** : distance to Spotters calculated using server data if available (prefix database by default)
- **BlackList** : enable/disable the DXSpot and Spotter's blacklists

> ***Note***
>
> *Web-Cluster and Telnet/Packet DX-Clusters share many other options to be defined from the **Preferences/DX Spots** tab : such as Log filter, DXCC-Filter, DX-Filter, DX Tracking list...*

Operation

The Web Cluster Interface opens from **File/Web Cluster** sub-menu or from the Tools Bar's button . You may have to resize the window or to resize each column (clicking or resets to default settings) to display all desired information.

Downloading the spots

Manual loading is done using the or buttons. When the **Timer** button looks as if is depressed, extractions are automatic according to your **Preferences**.

If the IE Icon is checked, the corresponding web page opens under the **Web** tab.

You can save the spots as HTML file or to recall a previous HTML file via the following buttons : Open or Save.

Troubleshooting

If the software is not responding when clicking on or buttons or if the Spots do not appear:

- **Web Cluster's URLs addresses and data format frequently change.** Please update TRX-Manager to the most recent version and then update your URLs by clicking **Reset to Defaults** from the **Web Cluster Tab** of the **Preferences/Software** dialog.
- Perhaps you have just canceled a connection from your browser (Internet Explorer) : you need first to exit TRX-Manager, enable the connexion again from your browser (TRX-Manager behaves like Internet Explorer).

Web Cluster's spots

Once a page of spots has been loaded, the program offers various functions for each spot.

Significance of the icons and filtering

An icon is assigned with each spot. This icon can be seized with the mouse to initiate a drag and drop operation. Moreover its appearance informs summarily about the status of the corresponding country (**QSL**) related to the DXCC Award.

new one : the country is not confirmed in any mode (or any band)
needed (new mode or new band): the country is already confirmed but not in this band or this mode (1)
confirmed : on this band (but not in this mode) or this mode (but not on this band) (2)
confirmed +IOTA detected (3)
spot of the DX Trackink list (unfiltered) (4)

If **Show all** is NOT checked (default) and Country is confirmed in this mode AND this band, the Spot is NOT displayed.
If **DE<5000km** if checked, Spots send from more than 5000Km are not displayed.

*(1) according to your option (**Needed for**) defined under **Preferences/Terminal***
(2) opposite condition of your option Needed for...
*(3) If **+IOTA** is checked under **Preferences/Terminal***
*(4) if **+TRACKING LIST** is checked under Preferences/Terminal and the callsign is listed in the DX Tracking List.*

Filtering options

Apart for a few specific Webcluster options defined from the WebCluster Preference tab, most of the DX-Spots filtering options are set from the Preferences Terminal/Spots tab.

DXCC Award status

If **Spot Status** is checked in the Preferences, in addition to the assignment of an icon to the new or confirmed countries, the program displays a more comprehensive (coded) information:

DX Spot	Frequency	Information	DXCC	DX de
MJ/DH8WLA	14.0201		NCNC [Jersey]	OE3KAB
EA1AHO	3.7800	CQ DX	NCNC [Spain]	EA1AHO
ZL3NB	3.5050	Tnx Bill	NWNC [New Zealand]	G3PYI
ZL3SV	3.7990	Garry	NCNC [New Zealand]	GI0VJE
ZL3NB	3.5049	txn new band Bill, gl	NWNC [New Zealand]	DF3VM

DXCC Column

The DXCC Award status for each spot is coded on 4 characters as follow : **ABCD**

***A** : Confirmed (C), Worked (W), New (N) for BAND*
***B** : Confirmed (C), Worked (W), New (N) for MODE*
***C** : Confirmed (C), Worked (W), New (N) for BAND+MODE*
***D** : Confirmed (C), Worked (W), New (N) for all BANDS and MODES*

DXCC Country is displayed in clear. If more than one DXCC Country is possible for a given prefix, a **?** appears.

If the LoTW users list is installed, ***** appears in front of the DXCC Status for each user of LoTW.

Tracking a callsign

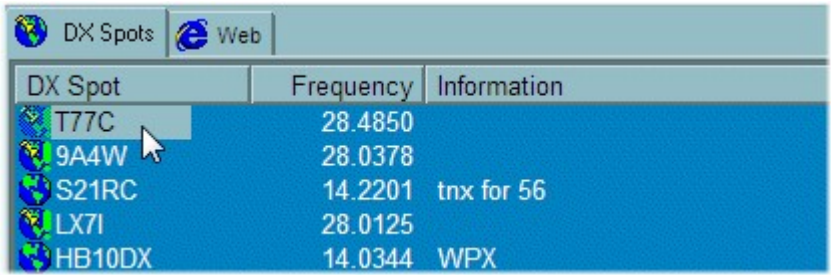
Tracking a particular callsign is possible ; you have to define the callsign to track from the DX Tracking dialog box. If a DX Spot is found with this callsign it will displayed whatever its DXCC Status with this icon.

Distance azimuth - azimuthal projection

The program calculates distance and azimuth for each spot. The mapbutton allows you to create an azimuthal projection of the 25 last DX-Spot

Setting the transceiver

To set the transceiver on the spot's frequency you double-click the desired spot displayed under the **DX Spot** tab:



Select the DX-Spot tab, double-click the desired spot

If a Split condition is specified in the comment field (QSX... UP...), a powerful algorithm (but not infallible !) calculates the TX frequency and sets the transmit frequency with the correct offset. If you don't like this feature you have to uncheck the **Auto QSX** option (**Preference/DX-Spots** tab).

DX-Spot Callsign is copied into the Windows clipboard and is available for any application.

According to the status of the Main toolbar's **Tools/DX Squelch** button (if RX is muted), AF Gain (if supported) is set to its previous value. RX mutes after the **delay** specified under the **Preferences/Transceiver/Band Plan** tab.

Sorting DX-Spots, context menu

A right click on Spot opens a context menu and allows you to activate various functions :

- instant **QSY**
- transfer to the second transceiver (if supported)
- displaying DXCC
- displaying CD-Rom (QRZCallbookBuck)
- launching DX-Atlas, Go-List HAM Cap...
- searching or direct logging:

- **BlackList**: this function opens the black list of spots and spotters. The selected DXCall and/or the Spotter may be added to the blacklist by clicking . The blacklists can be edited. The button deletes the current entry while the button clears the whole list.

Tips

When you click a spot, the DX-Spot Callsign is copied into the Windows clipboard and is available for being pasted into any other program.

See also Drag and drop : drag and drop of spots are supported into a list of frequency, the logbook, the DX Map ...

Watch List (advanced)

*Written by **Fred KE2QR***

You can display your own **Watch List** in the WebCluster window. This is a convenient way to track a bunch of stations and check for dupes. Use it during a contest, when you check into a list-directed DX Net or when you are waiting for your chance to bust through a pile-up! Simply create a CSV (comma separated file) with the Callsign and Frequency (in MHz) and open the file in the WebCluster window.

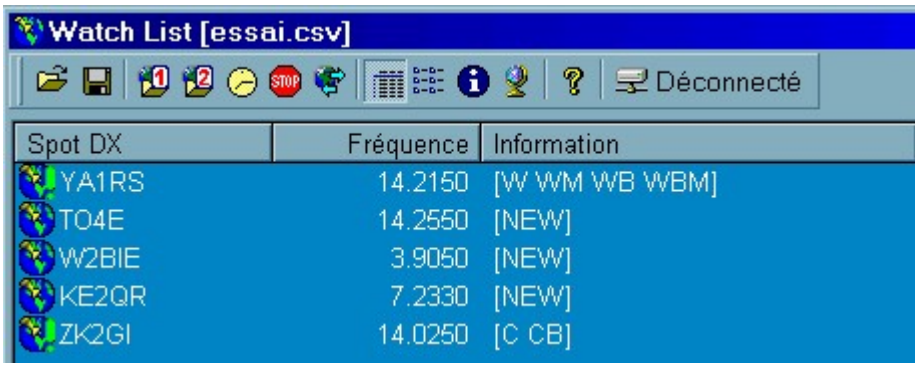
Creating the watch list

For example, create the file WatchList.csv using Notepad or Excel with these entries:

```
YA1RS;14.215
TO4E;14.255
W2BIE;3.905
KE2QR;7.233


ZK2GI;14.025
```

Save the file (If you are using Excel use **save as** and select file type CSV). In the WebCluster window click on the **File Open** button. In the Open dialog box choose **Watch List *.CSV** and select the file you have created.



Displaying the Watch List

Once the entries appear in the WebCluster window you can take advantage of all the built-in features; e.g., check for dupes, QSY by clicking on the Callsign, see previous entries in your log, paste the call into your log, etc.

Results

TRX-Manager displays the result using the following convention :

***C/W**: Confirmed/Worked*
***C/WM** : Confirmed/Worked for Mode (according to the band plan)*
***C/WB** : Confirmed/Worked for Band*
***C/WBM**: Confirmed/Worked for Band and Mode*

HAM databases CDRom

CD_QRZ, QRZ_XML, QRZ.COM

The program allows you to perform a callsign lookup from the **QRZ CD-ROM** or using the QRZ Online subscription service or the QRZ.COM Internet website.

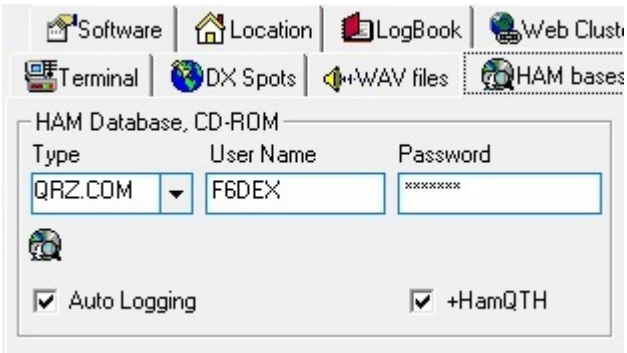
See also

- Radio Amateur Callbook
- HAMCall
- FCC Database lookup
- HamQTH
- Internet lookup

Settings (Preferences/HAM Bases tab)

You have to select the **Type** of HAM Database (HAM Database frame):

- **CD_QRZ**: Select **Drive** and **Path** (for **callbkc.idx**).
- **QRZ XML Online** (requires an account and a subscription): Enter your **Username** and your **Password**.
- **QRZ.COM** (requires an account): Enter your **Username** and your **Password**.



QRZ.COM is selected as HAM Database

The **Auto Logging** check box allows you to automatically perform a search while logging in a new QSO and/or transferring a new spot into the Log Book. In that case, the program populates the available data in order to fill in the corresponding fields of the logbook.

The **QRZ.COM** database can be used in conjunction with HamQTH if the **+HamQTH** woption is checked.

Installation (CD-Rom)

The QRZ CD-Rom is no more supported or sold by QRZ.

The program was written to read the version 11 of **QRZ**. Because QRZ may have changed the data format without warning - being able to run an older or newer version is not guaranteed. If you have enough disk space you may copy the **CALLBK** directory on the root of your hard disk and declare this disk as a drive (QRZ).

Possible problems

- The program fails to access the CD drive: this may happen if the drive is connected to a parallel or USB port and the drive is not recognized.
- Your CD Rom is outdated, please try to use the most recent version

Searching for a callsign

The **Display/HAM DB** submenu opens the module from which you can perform a manual search for a given callsign.

A lookup may be also initiated from the Log Book window by pressing the **HAM DB** button or also by right clicking on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows and choosing the **HAM DB** button.

First name, City, State an other fields... may be transferred into the Logbook's corresponding fields by clicking from the QRZ window.

TRX-Manager uses the Gridsquare field to compute beam heading..., if an **image** is found, the image button is activated and allows you to display it in your browser. The copy button transfers the **Name** and **address** into the Windows clipboard... or the full listing (QRZ.COM)

A new search may be performed by filling in the callsign field and pressing the **search** button .

From the Logbook

If the **Auto logging** option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press **Enter** (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the **Fields to transfer**. In summary:

- **Enter** or fetches the data into to the fields of the Logbook (auto-logging function)
- performs a search but does NOT transfer the data. You must use to transfer the data

Note about QRZ.COM

The QRZ.COM module connects to QRZ.COM the first time you open it ; QRZ.COM should display a "Login success". Please disregard any comment about a "Cookie failure" (irrelevant for TRX-Manager).

This function extracts the data from the HTML code. QRZ.com may change the code at any moment which may prevent any further extraction and this function from running. There is no warranty that this function will be updated in the future. If this happens, it is recommended you select None as HAM Database and use the manual Internet look up instead (or an other HAM Database).

Please understand the following limitations : QRZ.com may limit you usage (HAM 150 lookups per day, non HAM 25 lookups per day). See also: QRZ Callsign Database Policy

This function should be only used occasionnaly and does not replace an XML subscription which contrinutes to QRZ.com.

CallBook CD-ROM

The program allows you to perform a callsign search via the Radio Amateur Callbook.

Settings

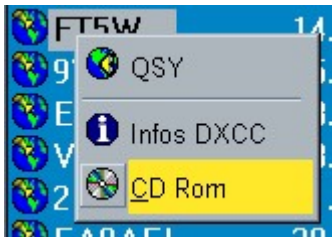
To declare the CD-ROM **type** and **drive**, you have to open the **Preferences** dialog box **HAM Bases** tab ; the directory (folder) where the files are installed may be **RAC\DATA** or **DATA** depending on the version of the Callbook or the installation (HD or CD). The **Auto Log** check box allows you to automatically perform a search when transferring a new spot into the Log Book.

The program was written to read the version 8 of the DLL. Because RAC may change the data format without warning, being able to run an older or newer version is not guaranteed.

When you open the RAC window for the first time or if you are working with a different version of the CD-ROM, the program needs to update the RAC DLL (RACCD32A.DLL) and to create or to re-build the QSL Manager index database. This database is not a copy of QSLMGR.DAT but an index that provides quick searches of the QSL Manager information. This action takes a few minutes.

Callsign search

Calling for a search may be performed from the Log Book window by pressing the **HAM DB** button: but also with a right click on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows.



Features

When you call for a search from another module, if the required callsign is in the database, it will be immediately displayed. If a **QSL Manager** is found, the corresponding text box displays the latest information. You may select another QSL Information by clicking the desired line in the list (under QSL). If a valid **EMail** address is found, it is possible to send an email by pressing this button . The copy button transfers **Name** and **address** into the Windows clipboard.

Firstname, City, State, GridSquare and **QSL Manager** and other fields (if available) are transferred into the Logbook's corresponding fields by pressing from the RAC window.

A new search may be performed by filling in the callsign field and pressing the **search** button .

Note : TRX-Manager uses the Gridsquare from the CD to compute beam heading.

From the Logbook

If the **Auto logging** option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press **Enter** (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the **Fields to transfer**. In summary:

- **Enter** or fetches the data into to the fields of the Logbook (auto-logging function)
- performs a search but does NOT transfer the data. You must use to transfer the data

Possible problems

- The program doesn't properly transfer the firstname, QTH and/or other fields of the Callbook into the logbook's fields : that feature is only available for the US and some Canadian callsigns. For other callsigns (international database), all informations belong to the same Address field : errors are possible (i.e. inversion between lastname and firstname) and there is no solution to this problem.

- The program doesn't display the QSL manager information: the program may have a problem to read the CD (especially if the drive is connected to a parallel or USB port):

  Check that your CD is provided with a \Data\QSLMGR.DAT file,
  Open the TRX-Manager's directory and delete QSLMGR.MDB,
  Copy the \data\QSLMGR.dat file into the TRX-Manager's directory,
  Run the program…

- Your CD may be outdated, please order the latest version of the Callbook CD-Rom.

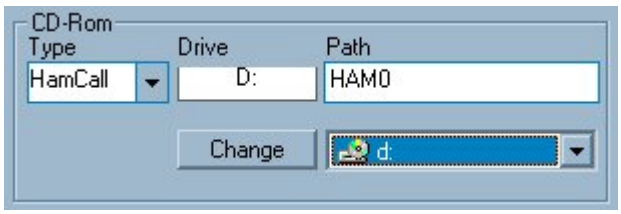
HAMCall

The program allows you to perform a callsign search via the Buckmaster's HAMCALL CD-ROM.

Settings

To declare the CD-Rom **type** and **drive**, you have to open the **Preferences** dialog box, **HAM Bases** tab. You must indicate:

- the drive of the CD
- which folder contains the HAMCALL.DAT and HAMCALL.IDX database files. The default folder is HAM0 but may change depending on the CD you are using.



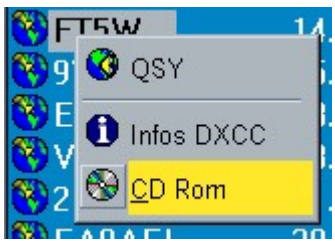
CD on drive D
Database in D:\HAM0

The **Auto Log** check box allows you to automatically perform a search when transferring a new spot into the Log Book.

> ***Note***
>
> *If you have enough disk space you may copy the Database folder (**HAM0** by default) **on** the root of your hard disk and declare this disk as the CD drive.*

Callsign search

Calling for a search may be performed from the Log Book window by pressing the **HAM DB** button: and also by right clicking on a spot displayed in Web Cluster or DX-Cluster or Azimuthal projection windows.



Features

When you call for a search from another module, if the required callsign is in the database, it will be immediately displayed. If an **image** file is found, the image button is activated and allows you to display it. If a valid **EMail** address is found, it is possible to send an email by pressing this button . The copy button transfers the **Name** and **address** into the Windows clipboard.

First name, City and **State** and other fields (if available) may be transferred into the Logbook's corresponding fields by pressing of the HAMCall window.

A new search may be performed by filling in the callsign field and pressing the **search** button .

Note : The **Grid Square** field is updated with the value of the corresponding field of the Hamcall's database. TRX-Manager uses the Latitude or Longitude from the CD to compute beam heading...

> **From the Logbook**

If the **Auto logging** option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press **Enter** (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the **Fields to transfer**. In summary:

- **Enter** or fetches the data into to the fields of the Logbook (auto-logging function)
- performs a search but does NOT transfer the data. You must use to transfer the data

Possible problems

The program was tested with the **2013** version. Because Buckmaster may change the data format without warning - being able to run an older or newer version is not guaranteed.

The program doesn't transfer the firstname into the logbook. Please note that feature is only available for the US callsigns. For other callsigns, the database doesn't distinguish between firstname, middlename and name.

FCC Database look-up

TRX-Manager provides automatic callsign look-up from the license records of **FCC** (Federal Communications Commission of the USA). The FCC's listing (available for public download) is updated every week and thanks to this utility, you can have very up-to-date information. Using this feature requires the installation of the FCC database.

How to install the FCC database ?

FCC offers free download of the full listing of the license records. However, this listing needs to be compiled into a database for use from TRX-Manager.

You have to follow this procedure :

1. Please go to the **FCC Web Site** http://wireless.fcc.gov/uls/index.htm?job=transaction and download **L_AMAT.ZIP** (**Amateur Radio Service / Licenses**). The file is about 90 MB
2. Extract **EN.DAT** and **AM.DAT** (optional) from this file
3. RUN **FCC_Call.EXE** (distributed with TRX-Manager) and click the Setup button
4. Fill in the required option : Path for EN.DAT, AM.DAT and FCC.MDB (AM.DAT License Class info is optional)
5. Click the **CREATE** button in order to create the **FCC.MDB** database
6. Please be patient (the process takes about 30 minutes for 790000 records per file) !...
7. You are now able to look-up callsign from FCC_Call or from TRX-Manager

Setting TRX-Manager

You have to set up TRX-Manager for FCC callsign look-up. Please :

1. Open the **Preferences/Software** submenu
2. Under **HAM Bases**, fill in the path for **FCC.MDB by clicking the open button**
3. Check the mark for automatic callsign lookup (auto-logging)

You are now able to look-up US Callsigns from the **Display/FCC Database** submenu.

From the Logbook

If the **Auto logging** option is checked, the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press **Enter** (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the **Fields to transfer**. In summary:

- **Enter** or fetches the data into to the fields of the Logbook (auto-logging function)
- performs a search but does NOT transfer the data. You must use to transfer the data

Important notes

- *you can simultaneously use look-up Callsigns from any CD-Rom **AND** from the FCC Database.*
- *the FCC module is only activated for callsigns of the USA*
- *the FCC module has a priority over all previously entered information's or any information extracted from a CD-Rom,*
- *if more than one record is found, the arrows of the tools bar jumps from one record to an other.*

HamQTH

TRX-Manager provides support for the free on-line HamQTH database (http://www.hamqth.com) by Petr, OK2CQR - owner of HamQTH.com.

Settings

You must have an account at HamQTH...

To activate HamQTH, check **HamQTH** from the **Preferences/Software HAM Bases** tab and fill in **UserName** and **Pasword** with your HamQTH account settings.

HamQTH can be used in addition or as a substitution to the others database:

- If **QRZ.COM** is selected as Ham database and the **+HamQTH** option is checked, data from QRZ.COM are automatically completed by the data extracted from HamQTH
- If no Ham database is selected under Ham Database/CD-Rom (**None** is selected), HamQTH becomes the main Ham Database. In that case (only), the CD-Rom icon has the same effect that the HamQTH icon .

HAM Database lookup

The **Display/HamQTH** menu opens the HamQTH module from which a manual lookup can be done but a search is also possible from the **LogBook**, a **CD-Rom** window or the **Cluster**'s context menu by clicking the corresponding icon.

Warning: HamQTH may be sometime very slow to respond and in that case the search may fail.

From the Logbook

If the **Auto logging** option is checked and there is NO other HAM base selected (QRZ, HamCall, RAC...), the transfer of the data to the logbook is automated when you introduce a callsign into the callsign field of the logbook and press **Enter** (keyboard) or the Info button of the Logbook; the transfered data depend on your options for the **Fields to transfer**:

- **Enter** or fetches the data into to the fields of the Logbook (auto logging)
- and perform a search but do NOT transfer the data. You must use the transfer button of the HamQTH window to transfer the data

If **QRZ.COM** is selected from the Preferences and **+HamQTH** checked, auto logging is done using a compilation of the data extracted from QRZ.Com and HamQTH.com.

DXCC, Activity

The HamQTH windows shows various information extracted from HamQTH server such as DXCC and recent activities extracted from the DX Clusters (DXC) or the Reverse beacons (RVB)... Please see the HamQTH web site to understand these information.

If a valid frequency is available (but the frequency field provided by HamQTH is often missing), a click in the list set your transceiver.

Where applicable, to speed up the display of essential data, you may disable the download of the DXCC and Activity informations using the buttons and .

Internet

The Internet Browser provides Callsign lookup from various HAM websites. This functionality is also accessible from the Logbook (Internet lookup button) and various other windows. The following website are supported : QRZ Online, HAM Callbook, FCC, RAC (Canada), REF (France), eQSL, IK3QAR (QSL Manager) and ... **Google**.

Options, settings

Under the **Preferences** (**HAM Bases** tab - **Internet** frame), you configure the default website.

QRZ.COM is selected as the default web site

If **External Browser** is checked the Internet button launches your default browser outside of the main window. Otherwise the TRX-Manager's internal browser is displayed inside the main window (Microsoft Internet Explorer in required in that case).

If **Auto** is checked, TRX-Manager will choose the most appropriate website for the country when you perform a search from the Logbook.

Internal browser, Search engine

Limitations

- *Automatic reporting of the data to the log's datafields is NOT supported*
- ***FCC License search engine**: FCC uses a protected access, automatic search is not possible. However the browser opens FCC web site with callsign in clipboard. You still have to paste the clipboard into the Callsign field and press Search !...*

Short Wave Listening

Short Wave listening overview

A comprehensive module is dedicated to **Short Wave Listening**. This module is opened via the **File/SW Listening**submenu (**F8**), and allows choosing stations from a database. Using a database (Access 7.0 -.mdb format) is more convenient than classic memory channels: you may define thousands of frequencies, add information, locator, perform queries...and you may transfer a frequency from the VFO as easily as into a channel.

Please note a compilation of the HFCC public data (Broadcast stations database) is available from the TRX-Manager's web site . In addition various importing features are available.

Features

- 18 Fields suited to Short Wave Listening and HAM Radio
- quick introduction of a station
- scanning capabilities
- configurable grid,
- various search functions, selections and queries
- **print** out reports of grid data
- automatic identification of the stations
- automatic creation of Access 7 databases
- Importationfrom Excelor DBF database distributed on the Internet (**ILG, SWBC**)
- sound recorder

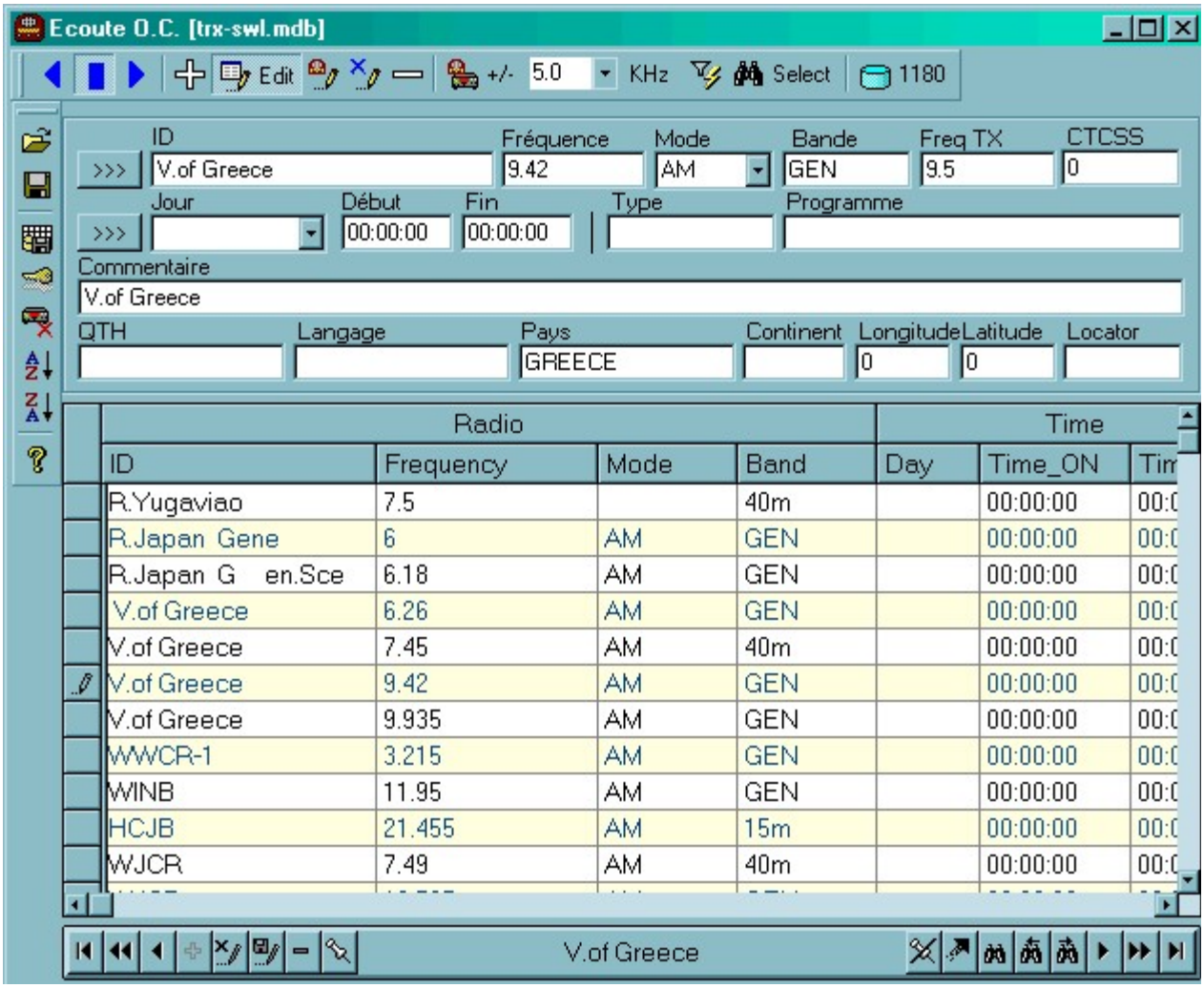
See also

- Database Grids

Overview

SW module features a main Grid, an Editing frame which opens by pressing the Edit

button, two Tools bar and a Navigation bar.



Sensitive image: move the mouse over the picture for more information

Preferences

The only preference to set is the **scanning** delay which is defined from the **Transceiver** tab of the Preferences.

Please check the regional settings on your computer (**Number** tab). Dot is recommended as the decimal separator. If Comma is selected as the decimal separator, you may have difficulties selecting or entering frequencies.

Getting started

Please, press the **Open** button, select **CSV** as file format and import **SAMPLE.CSV** into your new database...

Editing the SW Database

Adding a station manually

Please press the button : a station (or a record) will be added to the database with current frequency and mode of the transceiver ; now, please edit this record to modify and complete the fields as indicated below.

Adding a record by drag and drop

A drag and dropfrom the monitoringor a list of frequencies (spots, sound recorder' log...) to the SW data grid allows you adding the record corresponding to the dragged icon.

Editing the database

Editing is preferably performed from the **Edit** frame

, however direct editing of the grid is possible : to enable this feature it is necessary to disable the grid locking with the following button . It is better to lock this while using the database (ie listening!).

The **Delete** button deletes one or more selected entries of the database.

Tip

When you edit the database, it may be preferable to lock the setting of the transceiver by using this button . Of course, please make sure to unlock the transfer for listening !

Scanning the SW Database

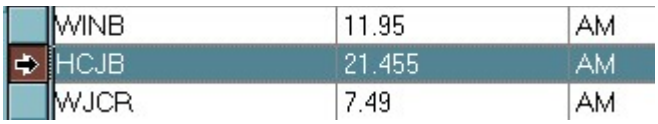
This section describes manual and automatic scanning capabilities of the database.

Tip

During scanning, please make sure to unlock the transfer of frequencies to the transceiver (button not pressed)

Scanning manually

A single click of a record (any click in the corresponding line) transfers the station's settings to the transceiver ; if geographical data (longitude, latitude) are available, direction and propagation predictions are displayed from the DXCC window.



Depending on your own preferences, you may choose to ignore the mode of the database by checking the **No-Mode** button . I.E : you may prefer listening all broadcast stations in SSB... or keeping the current mode and filter.

From the keyboard

If the grid is locked, pressing the **space bar** scans the database ascending.

Scanning automatically

Auto scan is provided by using tools bar buttons . The duration of the **Pause** during scanning (10s by default) and the Scanning **Speed** (30 by default) are defined under the Transceiver tab of the Preferences. Pressing the space bar stops the scanning. The **S0-9** combo defines the S-Meter threshold which pauses scanning.

Scanning may also work with the sound recorder.

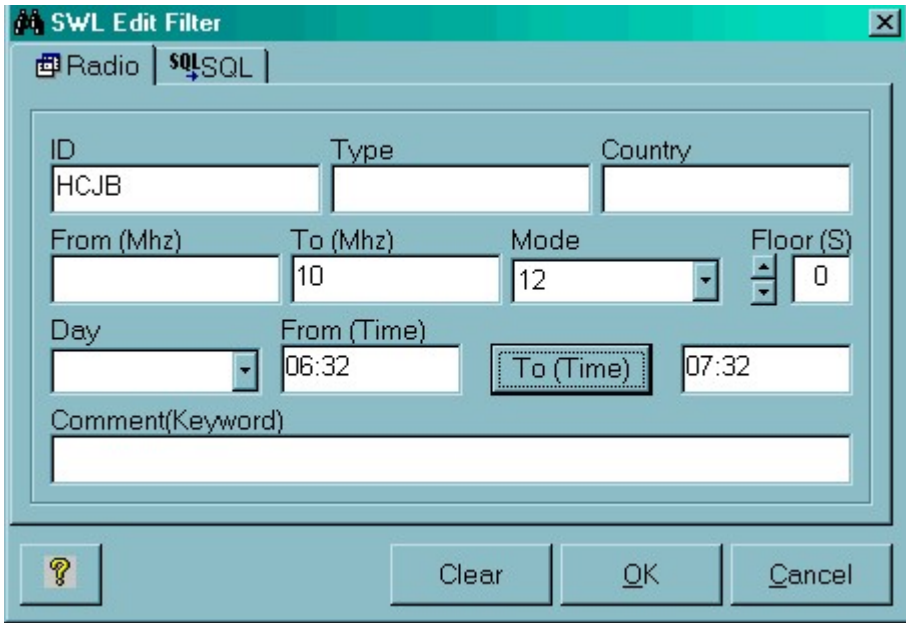
Searching a SW station, sorting

Searches (or Selections) are launched from the **Select**

button. When a selection is active, **Select**button appears as pressed and the number of selected stations is displayed in the tools bar. Selection and Scanning are work together and give a very interesting tool for listening

Search window

The Search window shows two tabs :



- The **Radio** tab provides quick selection by **ID**, **frequency**, **mode** , **country**, **keyword**... When you press OK, only records matching the filled in criteria are displayed
- The **SQL**tab provides advanced searches using SQL queries (**SWL** table). This button makes it easier to create SQL queries by translating the quick selection (defined under Radio) to a SQL query.

To go back to the display of the whole database, please press **Select again.**

Sorting

Sorting by any field is possible:

- click the column to sort (or any field in this column)
- press or to sort by ascending or descending values

Quick selection by field

For quick selection of stations matching a specific criteria displayed in the grid, click the corresponding field and this button : all records matching this field will be immediately displayed.

Automatic identification of SW stations

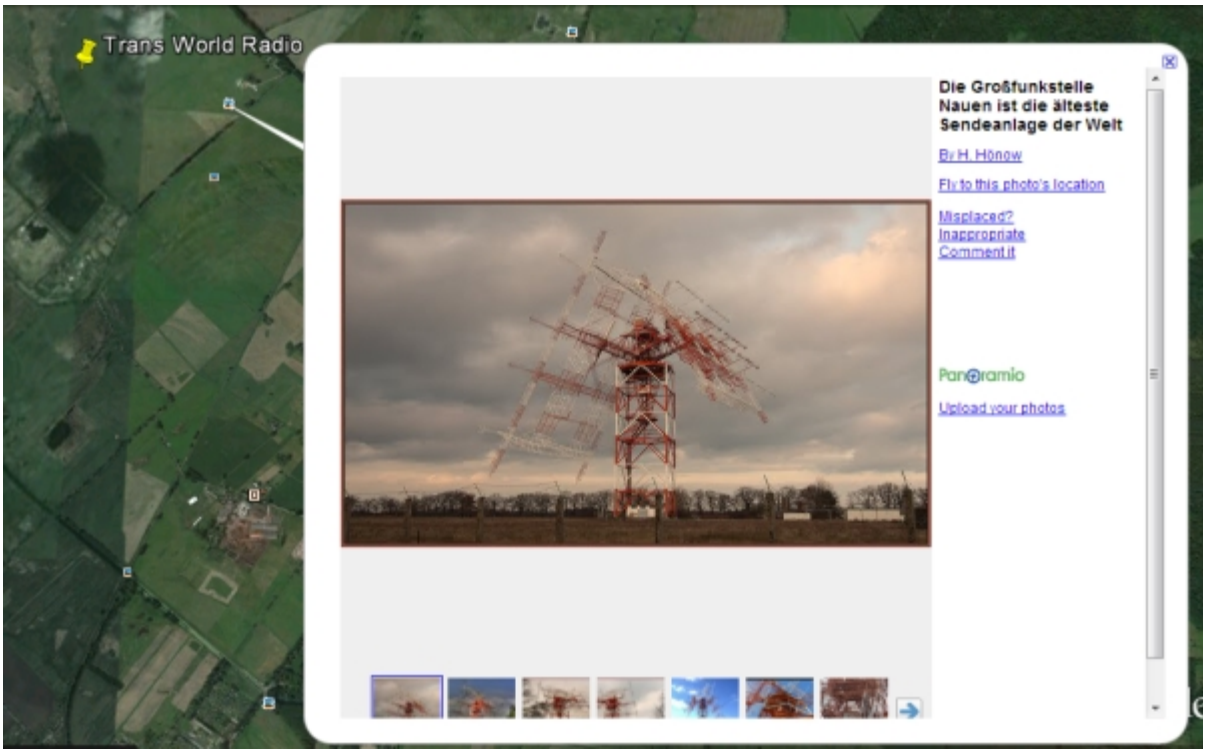
A powerful and easy to use function is the automatic filtering functioning with the Monitoring: this function provides automatic identification of the stations around the current frequency : when this button is pressed, the program only displays stations whose frequency = current frequency X (X is adjustable from the combo) : +/- 5.0 KHz. It is also possible to combine this automatic filter with a manual selection.

Note

- *This function is available only if the monitoring window is open*
- *Please make sure of the regional settings on your computer (**Number** tab). Dot "." is recommended as the decimal separator. If Comma is selected as the decimal separator, you may have difficulties selecting or entering frequencies.*

Tip

Now, if the station is identified... just press the **Google Earth**button (if installed) and you can have a view of the big antennas!



HFCC Database required

Creating a new database

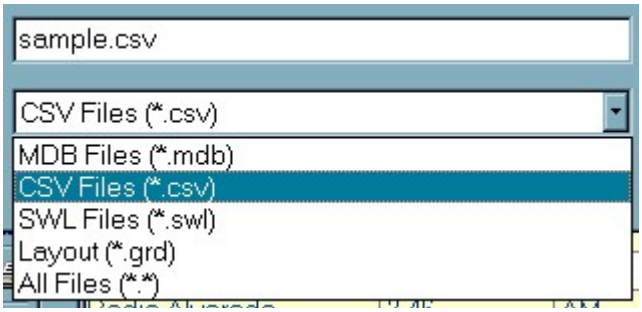
Creating a new Short Wave database is easy by using the **Import/Create**button . You have to choose the **MDB** extension and to type the name of the new data base. If this data base doesn't exist TRX-Manager will create it; the new data base becomes the current data base. From the **Open** button you may open an existing database (.mdb as extension).

Notes

- *You have to compact your database from time to time in order to optimize its performances,*
- *It is recommended that you place all files related to this module into the* ***\SWLData*** *directory*

Importing a SW Database

Various functions are available to make easier the creation of SW databases. Files are imported by pressing the **Open** button and selecting the desired format (.csv .swl). **All imported stations will be added to the database !**



Using the **Open** button you may create a new database or open an existing SW database (.mdb as extension).

The **Save** button provides export using the CSV format (Excel).

Creating, Loading a database using Excel

Using a spreadsheet as Excel may be very convenient for creating a large database from various sources. Once your database has been created under Excel, you may import it into TRX-Manager by using a CSV file.

Warning

- Before loading the CSV file and if necessary, create a new database,
- All imported stations will be added to the current database.

It is recommended that you first export a database into the CSV format by using the Save button : please examine the structure of the file which has been created by TRX-Manager for a better understanding of the CSV format.

Loading old SWL files (created by FT-Manager or TRX-Manager V2.X)

TRX-Manager V5 can import old SWL files. Warning: unlike FT-Manager or TRX-Manager V2.X, imported stations will be added to the current database.

Loading other Short Wave database

Please note a compilation of the **HFCC** public data is available from the **TRX-Manager's web site** . A version is included with the CD (**\Demos\HFCC** folder).

In addition, TRX-Manager supports some other shortwave databases distributed on the Internet provided they use the generic DBF format. A conversion utility installed with TRX-Manager: **DBFToMDB.exe** makes it possible to convert DBase files (*.DBF) to the MDB format.

Fields of the SW Database

Definitions and conventions of the different fields of the SW database are as follows :

```
ID          : Station ID (required)
Frequency   : Frequency in MHz (required)
Mode        : (see notes)
Band        : (any indication)
Day         : Day of week (in English)
Time_ON     : Time ON of the program (hh:mm:ss)
Time_OFF    : Time OFF of the program (hh:mm:ss)
Type        : Type of station (Aero, BCL...)
Program     : Program
Comment     : Comment
QTH         : Location
Language    : Language
Country     : Country
Continent   : Continent
Longitude   : Decimal degrees (East + West -)
Latitude    : Decimal degrees (North + South -)
Freq_TX     : TX Frequency in MHz (0 for simplex)
CTCSS       : CTCSS tonality in Hz (for a DCS code, put a negative value). Set 0 for none.
```

Notes

- ***Grid*** *text box of the Edit frame is not a field of the database but is provided in order to make easier to enter Longitude and Latitude.*
- *Valid modes are :*

  *. **CW LSB USB***
  *. **AM AMW** (AM Wide) **AMM** (AM Medium) **AMN** (AM Narrow)*
  *. **FM FMW** (FM Wide) **FMM** (FM Medium) **FMN** (FM Narrow)*
  *. **WFM** (Wide FM) - Only for ICOM receivers*
  *. **FSK RTTY DATA***

CSV Files structure

TRX-Manager can export/import **CSV** files to/from the SW database. The CSV format is a text file format which is compatible with Excel. Data are separated by **semicolons** (;).

Format

The first line of the file repeats - in any order - the name of the fields separated by semicolons. At a minimum, ID and Frequency fields are required. Each line forms a record: each value is separated by semicolons (**;**). The values follow the same order than the first line.

It is recommended that you create a CSV file using TRX-Manager in order to examine its structure.

Saving a database to the CSV format

Press the **Save**button of the tools bar and select CSV as the format of the file to create.

Opening a CSV file under Excel

CSV files may be opened from Excel by selecting **.csv** as type of file. Warning: a double click of a CSV files launches Excel but with an incorrect configuration : you must use the Excel's File/Open submenu for opening of a csv file.

Creating CSV files

You may create a database from Excel and then import it into TRX-Manager using the CSV format: please take care of the following conditions : The first line of the file comprises - in any order - the name of the fields but with the same naming as for the TRX-Manager's SW database. At least **ID** and **Frequency** fields are required.

B2 = 14.15991

	A	B	C	D
1	ID	FREQUENCY	MODE	BAND
2	QSO 20m	14.15991	USB	20m
3	QSO russe	14.16187	USB	20m

Please take care to remove all semicolons and commas from the strings : theses characters may be considered as separators,

Importing a CSV file into TRX-Manager

Importing CSV files is done from the **Open** button and selecting CSV as type of file. All imported records will be added to the current database.

SWL files structure

The old SWL format is no longer used by TRX-Manager. Instructions that follow show how to import old databases which were created by FT-Manager or TRX-Manager V2.X.

Format

A SWL file is a **text file** with **.swl** as extension ; the content for each line of this file is as follow :

Frequency, Mode, Day, Time, Country, Type, Description

The number of lines is not limited. Each field is separated by commas or semicolons (, or ;) :

- **Frequency i**n MHz
- **Mode** (literal) as follow LSB USB CW AM AMW AMN FMW FMN RTTY PKT
- **Day** (in English : Monday…)
- **Time** as follow HH:MM
- **Country**
- **Type** (Nav Aero BCL…)
- **Description** or information

Importing SWL files into TRX-Manager

Importing SWL files is done from the **Open** button and selecting SWL as type of file. All records will be added to the current database.

Loading DBF files

A conversion utility: **DBFToMDB.exe** (registered version only) converts **DBase** (or **FoxPro**) **(*.DBF)** files to **Access 7** (.mdb) databases. DBF files was distributed by:

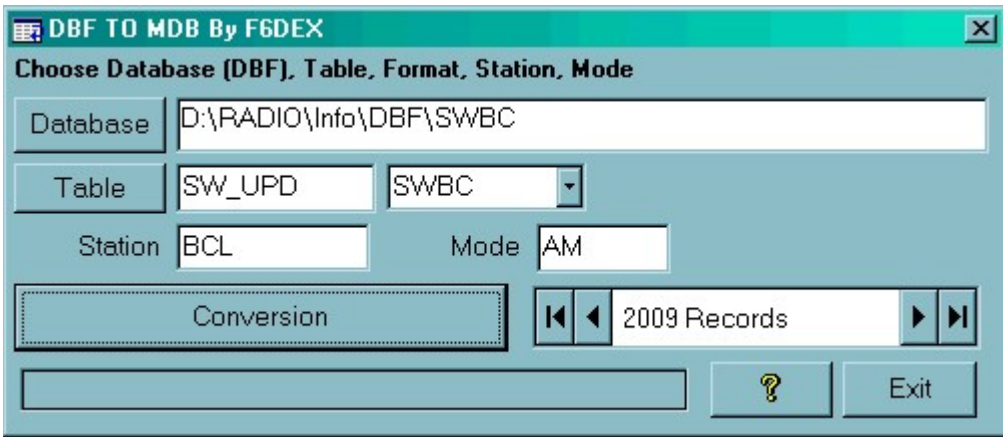
- ILG Radio http://www.ilgradio.de
- SWBC Schedules Subscription Service http://www.fineware-swl.com

Notes

- *These files are no longer distributed. This topic is given for reference only*
- *Please see the distribution policy for these files before you download and use the database.*

The conversion utility

The conversion program (**DBFToMDB.exe**) is installed in the TRX-Manager's main folder.



Running the conversion utility

You have to specify:

- The format
- The path of the database by selecting one of the DBF files.
- The table to convert :

  ***ILG** : the name of the table is indifferent*
  SWBC** : the name of the table is always **SW_UPD.DBF

- the default station field (optional)
- the default mode (AM)

Converting

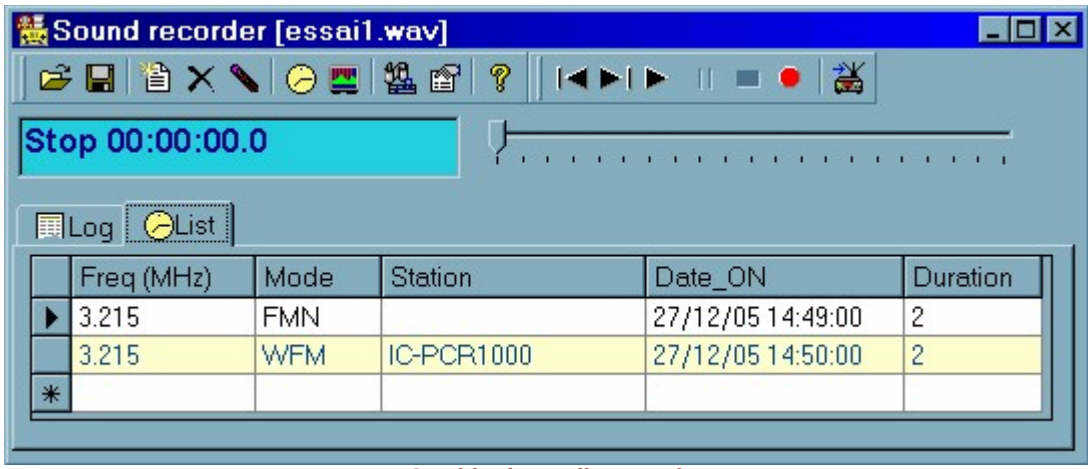
Please click Conversion to convert and indicate the name of the MDB file. You still have to load the corresponding MDB database into TRX-Manager by using the open button of the SW module.

Recorder

TRX-Manager has a very useful recorder for recording stations. The recorder provides recording of a preset sequence of stations (**programmable** mode) but can also be used in **scanning**mode with the SW database, the memoriesor the bandscope. Finally it has a **manual** mode.

Interface overview

The recorder is opened under the **Tools/Recorder** submenu. The interface is standard with two toolbars, one for the functions, the other for the recorder itself.



Sensitive image (hot spots)
Move the mouse over the picture for more information

A click in the Dat_ON column causes the display of a small button which makes it possible to set Date_ON finely:

Programmable mode

The stations to be recorded are introduced into the list by using the **NEW** button or by drag and dropfrom the monitoring, the memories windows.

By default, the beginning of the recording is defined in the current hour (**UTC**) and the length of the recording to **two** minutes. A click in the fields **Time** and **Duration** makes it possible to open a dialog box for the adjustment of these parameters.

The recording is started by pressing the **timer** button.

Scanning Mode

The **scanning** mode records during the pauses on stations while scanning. Avoid however launching several scans at the same time. The duration of the recording is adjustable. The **LOG** recapitulates the various heard stations.

Manual mode

The manual mode is standard but the various changes of frequencies are added in the log allowing access to the corresponding station quickly.

Caution: the duration of the recording is not limited in manual mode !

The Log

The Log recapitulates the various heard stations. A clic sets up the cursor to the corresponding position in the WAV file. A drag and drop from the **LOG** makes it possible to add the station to a list of frequencies (Memories, SW database).

Files

The recordings are in the WAV format. TRX-Manager associates each **.WAV** file a **.LOG** file. When beginning a new recording, take care to define a new file name - if not the recording in progress will be erased (except in manual mode where the recording begins from the position of the cursor).

Satellite Interface

Satellite interface - overview

TRX-manager makes satellite communications easier by automating **Doppler** compensation and cross-band communications. The program has been optimised for some SAT Transceivers but also works with two standard transceivers (one for receive, the other for transmit). It is even possible to control both VFOs of the same transceiver (however with some drawbacks…).

All types of satellites and some unique features are supported and even provides interactivity with the manual control of the transceiver!

Overview

- Intuitive interface
- Support of satellites with **fixed frequencies**
- Support of **linear transponder** satellites
- **RX** and/or **TX Doppler** compensation
- **Rotator control**(azimuth and elevation for some rotators)
- **Reverse** mode, **Trace** mode, **Trace + Split** (RX and TX in the same band)
- Automatic tracking of the transponder satellites even during a manual QSY
- Optimisation of the use with some SAT transceivers or two standard transceivers
- Possible use with an unique transceiver in Split mode
- Support for transverter (up/down converter)
- Memory channels

See also

- Configuration
- Operation
- About transceivers for satellites
- Rotator control
- SO4R (Single Operator Four radios)

Determination of the Doppler effect

TRX-manager does not implement the calculations of satellite data ; it uses a DDE Link with compatible satellite software. Currently the following programs are supported:

- NOVA http://www.nlsa.com/
- WINTRAK PRO http://home.hiwaay.net/~wintrak
- SATSCAPE http://www.satscape.co.uk
- SATEL939 http://perso.wanadoo.fr/po.f9nb/PAGEF9NB.htm
- WXTRACK http://www.satsignal.net
- SAT_EXPLORER http://www.f6dqm.fr

Consequently, you have to install one of these programs and know their use to establish satellite communications with the assistance of TRX-Manager.

Configuration

The Satellite interface is launched from the **Tools/Satellite** sub menu. A good knowledge of the various way to establish satellite communications is required to understand all the elements of the interface.

See also

- Operation
- About transceivers for satellites

The sensitive image (below) illustrates the use of each element.

Sensitive image
Move the mouse over the picture
for more information

Referential/Conventions

The logic of the interface requires that the frequencies which are displayed by the interface are the working frequencies of the Satellite (except during the adjustments) and not those of the ground station which will be **Doppler** corrected; indeed, it is much easier to work on the frequencies of the Satellite which are fixed. For each one of these frequencies, the interface also displays the Doppler compensation to be applied. These corrections are applied according to the **Step (Hz)** defined in the interface.

Rotator control

The TRX-Manager's Setup must be filled in with the **maximum practicable Elevation** (if supported) and the incremental **Step (°)**.

Warning

If your rotator is controlled through a DDE Interface (ARSWIN…), the DDE Link with the satellite software may freeze for some seconds during rotator control…

DDE Link with the Satellite program

The Satellite program must be launched and properly configured:

NOVA

Please choose **DDE Interface only** as rotator interface, or any other interface if you are controlling your rotator from NOVA. The DDE Link is then activated.

WINTRAK PRO

Please check **Output DDE Data Always** under **Options/Program** ; then select any **Single-mode** output. The DDE Link is then activated.

SATSCAPE

Open the **Control/Radio**... dialog and check **Enable DDE Link** (**Satscape V1.87 is required**; if you use a previous version please set the **uplink frequency equal to 1000 MHz** whatever the frequency you are using). The DDE Link is then activated.

SATEL939

Open the DDE Link by activating the **Remote control aerials** option and confirm the use of TRX-Manager.

WXtrack

Open the DDE Link by checking CX6DD WISPDDE Client under the Tracker/Options menu, Tracker model list. When a satellite crosses from below horizon to above the horizon (AOS) the azimuth, elevation and range-rate will be updated automatically, at the rate set by the Options/Update rate menu. If for some reason, AOS is not available, tracking may be engaged from the Tracker/Test dialog.

SAT_Explorer

No setting is required. Please note SAT_Explorer only displays AL and EZ for visible satellites.

One the satellite software is properly configured, and only at this moment, you select it from the Program list box. The name of the satellite being tracked will be displayed and a satellite icon then moves over the window as the data are received.

Important notes

- *If the satellite icon remains motionless, the DDE link is probably broken. Please click **R** (**Resume**) to reactivate*
- *Under Wintrak, this last action is required when you change the "output" or the satellite.*
- *The simultaneous use of TRX-Manager and a satellite program requires a powerful system. Please avoid using other programs in background. If possible, increase the update interval to 1 second or more if you encounter instabilities.*
- *The CW interface of TRX-Manager (Kenwood's Internal interface excepted) does not work properly during satellite control (or the satellite control does not work properly…)*

Using your transceiver(s) in SAT mode

Your transceiver must implement a SAT mode which allows receive during transmit. However, the use of a second transceiver for transmit gives about the same behaviour and comfort of use (please see considerations about Transceivers).

If you use the SAT mode of your transceiver (and the Main and Sub VFOs) please press **SAT**. If you are using two transceivers, press **TRX2** (or **TRX1**). Also press **RX** and **TX** to control both downlink and uplink frequencies.

Warning

TRX-Manager does not check if you are transmitting in the RX band !

Notes for Satellite transceivers

*To control the **Main** and **Sub** VFOs for **RX** and **TX** respectively, **SAT mode must be engaged from the program and from the rig**. Otherwise, TRX-Manager will control VFO A and VFO B : this is not a limitation but a feature allowing the control of both RX and TX in the same band as required for packet operation with ISS.*

See also the consideration about transceivers for satellites

Using a transverter

The **TRX** tab allows you setting up the program for the use with a transverter (up/down converter). These parameters (RX and/or TS offset) only affect the frequencies defined from the SAT interface. Of course, they do allow the correct calculations of the Doppler compensation.

This option is not related to the **Transverter** option of the **Preferences/Transceiver** dialog. Using both options at the same time is not recommended and my give unpredictable results.

Operation

Once your transceiver (or your two transceivers) is configured in **SAT** mode (SAT engaged from TRX-Manager) and the DDE link is selected, you may apply the following procedures.

Procedure for Satellites with fixed frequencies

If you know the single pair of working frequencies of the satellite, please fill in the interface with these frequencies (and modes). As soon as you press the DOP button, the software applies the appropriate Doppler compensation to the RX and TX frequencies of your station.

With this type of Satellite you should not use the VFO of your transceiver (or the other modules of TRX-Manager) to modify the frequencies while the Doppler compensation is activated. But you may use the **Up/Down**buttons to apply small and differential corrections (by step of 50 Hz) to the RX or TX frequencies.

Procedures for a linear transponder satellite

Such a satellite is characterized by a receive band and a corresponding transmit band where either:

TX – RX = CONSTANT
or
TX + RX = CONSTANT (Reverse mode)

To support linear satellites, Satellite transceivers and TRX-Manager implement a Trace mode (or Track) which makes possible to simultaneously shift the receive and transmit frequencies.

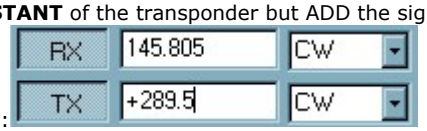
Two procedures may be used ; procedure #2 is preferable if your transceiver does not send back its frequencies and modes to the computer (such as FT-736 or with two different transceivers).

Procedure #1

1. First select **Trace OFF**, **Trsp. OFF**, and **Reverse** if required
2. Fill in the interface with **approximate values of the RX and TX frequencies**
3. Copy the values into the VFOs (**>VFO**)
4. Now, please try to listen to your signal by adjusting the VFO of your transceiver (or from TRX-Manager)
5. As soon as you can copy your signal (*) press **Trsp.** to capture the working frequencies of the transponder. These frequencies are calculated by TRX-Manager, locked on and displayed by the interface.

*(*) if your transceiver does not send back its data or if you are using two transceivers, fill in the RX and TX frequencies manually and press **VFO>** again before pressing **TRSP.***

Procedure #2

1. First select **Trace OFF**, **Trsp. OFF** , and **Reverse** if required
2. Choose a clear RX frequency and copy this frequency into the RX box of the interface, click **>VFO** to set your transceiver and the interface (*)
3. Fill in the TX box with the **CONSTANT** of the transponder but ADD the sign of the constant either + or – to the value in MHz (I.E -285 or +285): 

4. Press the **TRSP.** (Transponder) button: TRX-Manager calculates the working frequencies of the satellite. The Satellite's working frequencies are then calculated by TRX-Manager, locked on and displayed by the interface. Your TX is set by TRX-Manager to the ground station's TX frequency (by applying the Doppler effect) and you can listen to your signal…

*(*) You may also tune your rig and click **VFO>***

Operating in transponder mode

Once the proper shift and Doppler compensation have been applied using one the above procedures, you may note the TX and RX frequencies displayed by the interface are constantly corrected. This is normal while the Doppler compensation is not engaged…

Before any QSY, you have first to engage the **Trace** mode. Now, each change of the RX frequency involves the same change of the TX frequency. And as soon as you engage the Doppler compensation (**DOP**), working frequencies of the

satellite become stable and TRX-Manager tracks the satellite by the defined **Step (Hz)**.

While working the satellite, you can still do a manual QSY using the tuning dial of your transceiver. TRX-Manager recalculates the working frequencies of the transponder in real-time and tracking resumes from the current frequencies.

Listening "on the fly"

Tracking a satellite " on the fly", i.e. without knowing its working frequencies amounts to using linear transponder satellite by:

1. Adjusting the receive frequency on your transceiver or receiver
2. Pressing the **TRSP.** button to capture the satellite's working frequencies
3. Engaging the Doppler compensation by pressing DOP.

Additional information

Functions that are not fully described above are the following one:

***SAT** (Satellite mode): for compatible transceivers,*
***TRX**: activates a second transceiver for transmit*
***ANT**: activates rotator control*
***VFO>**: to copy (or retrieve) the current frequencies of the transceiver into the interface*
***>VFO**: to copy (or set) the transceiver's frequencies and modes from the interface ; also sets the rotator to the current direction of the satellite*
***M.IN**: to copy the current settings into a channel ; the channel's number and label are defined from the bottom of the window*
***TX** and **RX** buttons: to compensate TX or RX, TX and RX*
***RX TX** in the same band while **TRACE ON**: this is possible provided you set your transceiver in Split mode (the FT-847 does not support this use).*

Using the memory channels

Twenty memory channels provides setting for satellite ; please set the configuration and

1. define a **Name** and a **number** (1-20)
2. press the **M.IN** button

Recalling a memory channel is done by a single click in the list from the memory tab.

Possible problem

Q: With a Satellite transceiver, TRX-Manager does not control Main and Sub VFOs for RX and TX respectively but VFOA and B . Why ?

A : This occurs if you do not switch the program and the transceiver into **SAT** mode. While in normal mode (SAT not engaged), TRX-Manager does not control Main and Sub but VFO A and B allowing the control of both RX and TX in the same band (i.e. for packet operation with ISS..). **In order to control Main and Sub VFOs for RX and TX, you must toggle the program and the rig into SAT mode**. See also Configurationand About Transceivers for satellites.

About transceivers for satellites

Only few transceivers are compatible with satellite communications. In addition, operating the program may be slightly different according to the type of transceiver you are using. If your transceiver does not sent back its data, you can not use the VFO> button and you must always use the **>VFO** button to set the transceiver. Otherwise, and in most cases both the program and the transceiver display the same frequencies, and using the **>VFO** button is not required to set up the interface.

FT-736

You must always use TRX-Manager for frequency changes (TX and RX), and for SAT mode switching (ON/OFF). You must use the Trace mode of the program ; the Track mode of the transceiver is not compatible with the SAT interface. Controlling the VFO during transmit is only possible in SAT mode. Procedure #2 must be applied for the linear transponders satellites.

FT-847

You must always switch the SAT mode (ON/OFF) from the program and you may either use the Track mode of the transceiver (preferable) or the Trace mode of TRX-Manager, but using both functions simultaneously is not desirable… Controlling the TX VFO during transmit is not possible in Split mode.

TS-2000

The SAT interface uses almost all of the TS-2000's SAT features:

- The **M.IN** function also affects memory channels 1-9 of the transceiver
- RX always uses the main receiver
- Recalling a memory channel from the program sets the transceiver on channel #0 (the contents of the memory are therefore recopied on channel #0, which is used as the working channel)
- Transferring the current settings (frequencies and modes by using **VFO>**) from the transceiver to the software may give wrong TX modes, since the program can not recognize different modes for transmit and receive (USB/LSB). This is not a bug but a limitation of the protocol.

IC-821 IC-970 IC-910 IC-9100

The program must be toggled in SAT mode (*) in order for TRX-Manager to correctly address the Main and Sub VFO's. It is also important that both the transceiver and TRX-Manager are is SAT mode. In normal mode (SAT not engaged from TRX-Manager), and by design, the program adresses VFO A and B making possible the control of both RX and TX in the same band.

In SAT mode, the sub VFO's frequency display is delayed after a QSY stops. The TRACE mode of TRX-Manager does not have any effect in SAT mode.

(*) the SAT command does not have any effect on the IC-821 or IC-970 : you also need to toggle the rig in SATELLITE mode manually.

Using a pair of transceivers

Two transceivers can be used. They must then be defined under the TRX1 and TRX2 Setup's tabs only (in that case running two different ICOM Transceivers on one com port is supported). However, the interface with the transceiver used for transmit is simplified:

- Commands must always be done from TRX-Manager by using the **>VFO** button
- The **VFO>** function is not usable to read the TX frequency (except for ICOM Transceiver)
- **Manual frequency change of the transmitter is taken into account by TRX-Manager only if the sub Transceiver is an ICOM !**

Moreover (and this is the main limitation), the correction of the TX frequency during transmit is generally not supported.

Except these limitations, the transceivers are locked between them by the program and the operation is practically the same one as with a satellite transceiver.

> **Warning**
>
> TRX-Manager does not check that you are not transmitting in the RX band !

Standard transceiver in Split mode

Such a configuration is supported, including the Trace mode as well as TX and RX in the same band but you are advised of the following limitations:

- Of course simultaneous receive and transmit is not possible!
- While TRX-Manager shifts the TX frequency, the RX VFO is used as a temporary buffer (except with Kenwood transceivers) and receive may disturbed. To minimize the inconvenience, it is advised to choose a large **Step** (100 Hz or more) and to use with a Satellite whose uplink frequency is lower than downlink frequency.

Utilities

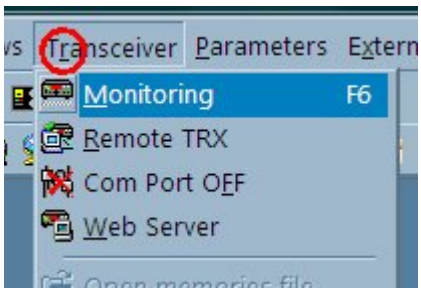
Keyboard shortcuts

Specific keyboard shortcuts are available for various modules. Two types of shortcut are available : MS Windows's shortcuts and TRX-Manager's shortcuts.

MS Windows's shortcuts

These shortcuts, as for any Windows compatible software, use a control key : Alt+ key or Ctrl+key ; they are self documented.

Below, Windows shortcut for Transceiver menu is Alt + R



Specific TRX-Manager's shortcuts

These shortcuts are only available if the corresponding window is highlighted : to highlight a window, please click its title bar. They do not require a control key and you have to press the key with **caps off.** If you have no effect, please make sure to give the focus (or to highlight) to the corresponding window.

To improve the behavior of the keyboard you may increase the rate of **key repetition** from the **Control Panel** (**Keyboard** Icon).

Monitoring (F6) or DX Bar window

Main keyboard

Key Effect
A: VFO A
B: VFO B
C: Memory channel operation
E: clarifier clearing
F: FM mode
H: This help
I: Incremental tuning mode On/Off
K: PTT key
L: LSB mode
M: AM mode
N: Filter toggle wide/narrow
O: Clarifier On/Off
P: QMB displaying
Q: QSX
R: Start Tuner
S: Split mode
T: Tuner On/Off
U: USB mode
V: VFO>M
W: CW mode
X: Quick Split (Recall)
Y: RTTY (FSK) mode
Ct+Ent: Sto (QMB)
BkSp: Rcl (QMB)
Esc: XFC / TFS / TXW
PgUp: Range Up
PgDn: Range Down
Home: AF Level Up
End: AF Level Down

Numeric keypad

Key Effect (QSY)

1 -250 Hz (FT-980 FT-767GX : -100 Hz)
3 +250 Hz (FT-980 FT-767GX : +100 Hz)
4 Fine QSY Down (Incremental) (*)
6 Fine QSY Up (Incremental) (*)
7 -2.5 KHz (FT-980 FT-767GX : -5 KHz)
9 +2.5 KHz (FT-980 FT-767GX : +5 KHzHz)
2 -100 Khz (GEN : -1000 KHz)
8 +100 Khz (GEN : +1000 KHz)
- QSY down (= mouse wheel) (as well as "_" and "Right" arrow)
+ QSY up (= mouse wheel) (as well as "=" and "Left" arrow)

(*) These keys can not be used as accelerator for an USB Knob ; please use (+) (-) instead in conjunction with the INC function (I key) and PgUp/PgDn (Range).

SW. Grid (F8) window

Key Effect

Space Manual: scanning or stops the auto-scanning

Log Book (F11) window

Key Effect

Ctrl-S: Saves the current entry
Ctrl-D: Clears the fields
Enter: Updates the fields
Ctrl-C: Give CALL field focus
Ctrl-N: New QSO Toggle
CTRL-S: or F12 Saves the current entry (*)
*F1-F8: CW Messages M1-M8 (if **F1-F8>CW MSG** checked under Preferences/Logbook)*

*(*) If **F12=Enter+Save** is checked under Preferences/Software, Logbook tab, pressing F12 populates the fields (like Enter) and saves the QSO in one click. Please note, F12 automatically fills in the field ONLY if the cursor is in the CALL field. See also: Logging a new QSO.*

CW Keyer (and Logbook)

Key Effect

F1 to F8: recalling message M1 to M8
Ctrl-K: sending message
CTRL+F12: stops the transmission
CTRL+Q: CQ Cycle
CTRL-S: or F12 saves the QSO
Ctrl-P: paste the QSO (without saving it)
End: VA
Home: VE
Pause: AS
BkSp: Error (.....)

Internet browser

TRX-Manager includes an integrated Web browser based on Microsoft's Internet Explorer (**IE4** or later). Obviously IE4 or later must be installed to be able to run the integrated browser! A system error will occur if IE is not installed.

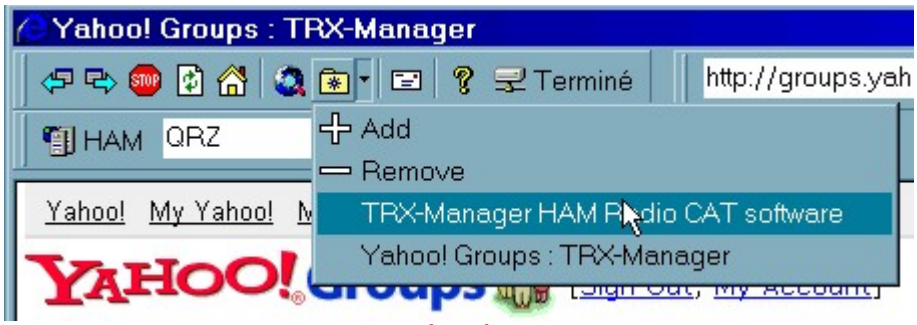
Running the browser

The browser is launched by the **File/Browser** submenu.

Features

The browser's toolbars show the standard navigation buttons. The **Home**, **Search** are defined from the **Preferences,** under **Web**.

While the **Favourite** button opens the favourite URL defined in the Preferences, the associated drop down button opens a menu from which you may **ADD** or **REMOVE** the **current page** to a customized list of Favourites (*).



Favourite sub-menu

*(*) Saved as **favorites.dat** file using this format : **TITLE|URL***

A toolbar provides Callsign look-up from various servers via the Internet ; it is also accessible from the logbook but automatic link with the fields of the log not supported.

Quick EMailer

TRX-manager can send electronic mails from various windows, either with your default software, or using an internal mailer : this module makes it possible to send easily and quickly a short message and notifications such as DX Spot alerts.

Settings

You set up the EMailer from the **Preferences/Location** dialog box.

Please check **Internal Mailer** if you use the TRX-Manager's Internal EMailer (recommended). If you let the **Internal mailer** option NOT checked, TRX-Manager uses your default software to send electronic mails; however, your default software can NOT be used to send Notifications.

To set up the Internal emailer for your personnal EMail account, you have to enter **your email** address (xxx@yyy), the name of your **SMTP** server and the SMTP **port**. If required you must check on the **Authentification** option and fill in **UserID** (Login), **Password** and **Security mode** (None, STARTTLS, SSL/TLS). Please check with your Internet Service Provider how to set up your STMP Account.

Sending an email (Internal mailer)

You open the mailer module from the **Tools/Quick Mail** submenu. Fill in the **email** of the recipient and his **name** (optional). Indicate the **subject** and type the **body of the message**; a **signature** may be added to the message. Press **Send** : the message is immediately sent.

The **name** sent by EMail is the UserID of your registered version: it appears in the title of the window.

Applications

It is possible to send EMails from the Callbook, HAMCall, or LogBook windows.

The internal mailer can be used for the automatic notification of the **IP Address** of the SERVER station (TRX Remote control) - restricted to registered users only.

The internal mailer can forward a **DX-Spot** (or a list of DXSpots) via EMail as soon a needed, newone or tracked spot is received: please configure the **DX-Mail** frame under **Preference/Terminal** - restricted to registered users only. Since a large amount of emails can be interpreted as spamming by your SMTP provider, the **Each 5 minutes** option is recommended. If necessary, the STOP button temporarily stops the transmission of the DXMails ; however, they are still memorized.

Limitations

Please consider the following limitations of the internal mailer of TRX-Manager:

- *You must be a subscriber of a SMTP server (outgoing mail) and be connected to the Internet,*
- *The program carries out a direct connection with your SMTP server without using your mailbox,*
- *It may be that this module does not function with certain SMTP servers,*
- *It is not possible to attach files.*

Data base compacting

When making changes to your database, the file can become fragmented and its size increases. TRX-Manager allows you to compact any **mdb** database via the **Tools DB Compacting** submenu. A compacted database takes up less disk space and runs faster.

Please note

- You can only compact **Access 97** databases with **mdb** as the extension
- Make a backup copy of your file before compacting or opening it from Access
- It is not possible to compact a database which is already opened (you have to close the **SWL** and **LogBook** windows)
- TRX-Manager uses the **Access 97** database format : any database created by TRX-Manager (MDB extension) may be opened from **Access** ; however do not save the bases with the Access 2000 format which is not compatible.

SQL Language

The Structured Query Language (**SQL**) is used to retrieve, sort, and filter specific data from a database ; it is not possible within this on-line help to give a full tutorial of this programming language ; however the following basics will make it possible to create current queries necessary for the compilation of varied reports.

More information can be found on the Microsoft's MSDN under **SQL Expressions** and on many other web sites.

Basics

SQL queries selects particular records from a database. Typically, an SQL query contains a select **statement** and a **clause** with one or more **logical** conditions.

SELECT statement

The **SELECT** statement queries the database in order to extract the records matching specified criteria. SELECT can be followed by * or DISTINCT.

***SELECT** * : selects all of the records that meet the conditions in the SQL statement*
***SELECT DISTINCT field** : omits records that contain duplicate data in the selected field (makes possible to select the different values for the specified field)*

Clauses

***FROM** specifies the tables or queries that contain the fields listed in the select statement*
***WHERE** specifies which records from the table are affected by the select statement*
***ORDER BY** sorts a query's resulting records on a specified field or fields*

Operators

Logical operators

The logical operators are used to compose an expression that records must satisfy to be included in the query results. Available operators are AND OR NOT.

Relational operators

Relational operators allow the comparison of the relative values of two expressions. Available operators are the following :

< *Less than*
<= *Less than or equal to*
> *Greater than*
>= *Greater than or equal to*
= *Equal to*
<> *Not equal to*
***BETWEEN** Determines whether the value of an expression falls within a specified range of values*
***LIKE** Compares a string expression to a pattern ; you can specify the complete value (for example, Like "F6DEX"), or use wildcard characters to find a range of values (for example, Like "F6*")*

Syntax

The conventions are the followings :

- SQL statements are not case sensitive
- string expressions are enclosed in quotes : **'alpha'**
- decimal separator is the dot : **14.195**
- date use US convention enclosed in # : **#mm/dd/yyyy#**
- logical values are **True** or **False**

Examples

SELECT * FROM LOGBOOK WHERE QSL_RCVD = 'Y' ORDER BY DATE_ON : this query selects all records from the logbook table for which QSL received is YES; records are sorted by ascending date.

SELECT DISTINCT IOTA FROM LOGBOOK WHERE QSL_RCVD = 'Y' : this query selects the distinct values for the IOTA field for which QSL received is Yes.

SELECT * FROM Logbook WHERE CALL LIKE '*FR*' AND DATE_ON > = #04/25/2000# : this query selects all the QSOs made after the April, 25 2000 for which the call field contains FR.

SELECT * FROM LOGBOOK WHERE BAND = '2m' and (MODE='FM' OR MODE="AM" OR MODE="SSB" OR MODE= 'USB' OR MODE='LSB') AND COMMENT NOT LIKE '*RPT*' AND COMMENT NOT LIKE '*REPEATER*' AND QSL_RCVD='Y' ORDER BY DXCC : this query selects all the confirmed QSOs made on 2 meters in phone (AM or FM or SSB or USB or LSB) ; QSO with "RPT" or "REPEATER" in the comment field are excluded. The records are sorted by DXCC.

Some other useful queries are listed in the Advanced search topic (Logbook).

OLE Link

OLE Overview

TRX-Manager is able to communicate with other programs via the **Windows OLE** feature. This idea was introduced by **Dennis WN4AZY**, author of the powerful **LOGic** logging program, links **TRX-Manager** and **LOGic.**

Supported programs

TRX-Manager is able to be controlled from the following programs:

- LOGic by Dennis WN4AZY, a comprehensive logging program
- HAMSCOPE by Glen KD5HIO a program for digital communications
- MULTIKEYER by Glen KD5HIO a CW Keying program
- Voice Keyer Express by Stu N7QJP, a digital memory recorder
- Swisslog by Walter HB9BJS an other powerful logging program
- a Screen saver and a test program (FT-Control : see below)
- TRX-Meter (High precision S-Meter)
- TRX-Synchro TRX-Acom (Synchronizes two transceivers, SteppIR, Alpha amp, ACOM amp.)
- TRX-Command (Sends user-defined commands or macros to your transceiver or your LPT port)
- TRX-Pan an SDR Decoder
- LP-Monitor and LP-SteppIR by Larry N8LP to control remote relays, rotors, over serial ports and/or IP, SteppIR beam...

Setup

OLE Link is automatically enabled by TRX-Manager ; there is no specific Setup.

Please note that, **when TRX-Manager is minimized, the CAT communication stops**. You may wish to disable this ability to keep the benefit of the Automode feature : the solution is to avoid minimization of the TRX-Manager's main window.

License for the OLE-Link

Running the link requires a properly installed version of TRX-Manager and requires the same license information.

Testing the link

With TRX-Manager two programs are distributed to demonstrate the OLE Link:

- **FT-Control** : this program allows you to test the OLE ability. You may run as many instances of FT-Control as you want. The current operating conditions are reported into FT-Control every 3 seconds, and you may select your operating conditions from the FT-Control window.
- TRX-Synchro.exe : this program controls and synchronizes a second Transceiver (only ICOM and some Yaesu) with the Transceiver under the control of TRX-Manager.

Running LOGic

TRX-Manager is able to communicate with **LOGic 5 & later** via the OLE link.

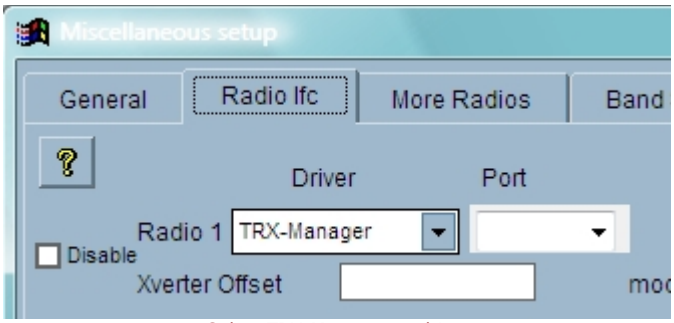
LOGic is a powerful logging program that allows you a comprehensive management of your log database. For more information about LOGic please go to the PDA's web site at http://www.hosenose.com/.

Requirements

To use this feature, you need to install **LOGic 5.1** or later.

Setup from LOGic

From **LOGic** , declare TRX-Manager as the transceiver without selecting a COM port. TRX-Manager becomes a universal interface for all transceivers... See LOGic's documentation and the **PDA's** web site for more information about the implementation of the link between LOGic and TRX-Manager.



Select TRX-Manager as driver
(no com port selected)

Please start TRX-Manager first

Although LOGic can automatically start TRX-Manager at the beginning of its session, it is recommended you launch TRX-Manager before LOGic.

If you let LOGic launching TRX-Manager automatically, you will notice that TRX-Manager does not open the Monitoring window. This is normal and done to prevent any loss of the link during the time the communication loop engages. In that case, just press **F6** to engage the Monitoring.

How to toggle from LOGic to TRX-Manager

You may maximise TRX-Manager from LOGic using the **max** button of the LOGic's interface.

From TRX-Manager, a tool bar button (or the **Externa**l submenu) allows you to call or to maximise the LOGic window. This action also copies the current call sign into the clipboard : use the LOGic's **Copy/Paste** function to retrieve the call sign into any field.

Note

When TRX-Manager is minimised, the CAT communication stops. You may wish to disable this ability to keep the benefit of the Automode feature : the solution is to avoid minimisation of the TRX-Manager's main window ; you may run LOGic with TRX-Manager maximised in background; a slight reduction of the PC speed is perceptible.

See the LOGic help files for more information about the use of LOGic.

Logging from TRX-Manager to LOGic

You may link the TRX-Manager's Logbook edit tab with the LOGic log form by enabling the **Auto-Export** utility and choosing the **LOGic** format from the **Preferences** dialog under the **Logbook** tab. This function uses the server mode of LOGic (LOGic OLE Server). Please note QSOs are transferred to LOGic as soon as they are saved from TRX-Manager. However, editing or deleting a QSO from TRX-Manager has strictly no effect on the LOGic's database.

Screen saver

A compatible screen saver Windows 95/98/NT/2000/XP is provided with TRX-Manager. This screen saver (or watch screen) is conceived to run simultaneously with TRX-Manager : it displays a signal analysis graph. If TRX-Manager is not running, the graph changes are randomized. A background bitmap for your desktop is also provided.

Installation

The use of the screen saver requires:

- **TRX-Manager V 1.8** or later,
- **FT-Saver.scr** or **TRX-Saver.scr** (installed in the System folder by the installer)

Configuration

To configure the screen saver, you have to open the Windows Display Properties dialog box and under “screen saver” to choose FT-Saver. It is not possible to define a password or any parameter.

Desktop wall paper

TRX-Manager installs a background bitmap for your desktop in the Windows directory as **TRX-Dektop.bmp**. You may choose this bitmap under the display properties dialog box for Windows.

TRX-Synchro

A little application TRX-Synchro (also accessible from the **Transceiver** submenu) is distributed with TRX-Manager: this program can control a second Transceiver and various original functions.

> ***Note***
>
> *This topic is given for reference only. Most of the features supported from TRX-Synchro are now best supported by the TRX-Manager's synchro function. A notable exception is the Alpha 87A amplifier.*

A TS-2000 controlling an IC-703

TRX-Synchro can also control SteppIR Beams and Alpha 87A Amplifiers.

Conventions

- If TRX1 or TRX2 or TRX3 is the main transceiver of TRX-Manager, TRX-Synchro controls TRX2
- If TRX2 is the main transceiver of TRX-Manager, TRX-Synchro controls TRX1
- TRX-Synchro follows the Operating transceiver if SO4R is checked.

Using TRX-Synchro and the corresponding Sub-Transceiver is NOT possible since TRX-Synchro uses the same settings as TRX-Manager. However, in the case of the SteppIR beam or the Alpha amplifier, serial ports are independent from those of TRX-Manager.

Protocol

Various modes of operation are available by selecting the **Protocol**:

- **Synchro** : in this mode, the second transceiver follows the transceiver under the control of TRX-Manager (only available with FT-8X7/890/900/920/990/1000D/M ICOM and KENWOOD). ICOM and Kenwood follow Split, TX Frequency and PTT (optional).
- **Dual Receive**: in this mode the second transceiver is independently controlled. The TX and RX buttons sets up the Transceiver under the control of TRX-Manager with the current Frequency and Mode of the second transceiver (only available with Yaesu FT-8X7 ICOM and KENWOOD). From TRX-Manager a Drag and Drop of a frequency to the status bar sets up the second transceiver with the corresponding frequency and mode:

How to drag the VFO B of a TS-2000 to the VFOA of an IC-703 !
Warning when transmitting: there is no function to protect a transceiver in receive mode. You must switch it OFF manually.

- **SteppIR** :in this mode, TRX-Synchro controls a SteppIR beam using **Kenwood** protocol WITHOUT REGARD as to which transceiver you are using (TenTec, Yaesu...). Speed is fixed at 4800 bauds and com port is selectable. There is no specific algorithm (TRX-Synchro follows any frequency change).
- **Alpha Amp.** : : In this mode, TRX-Synchro controls the Alpha amplifier for band changes and Frequency changes. Speed is fixed at 4800 Bauds and com port is selectable. By using the **Tune Load** and **ENT** buttons, you may store your settings for up to 6 antennas (Ant 1...6).
- **File** : TRX-Synchro behaves like a Kachina transceiver (reads/writes **KC505_01.dat**).

TRX-Pan

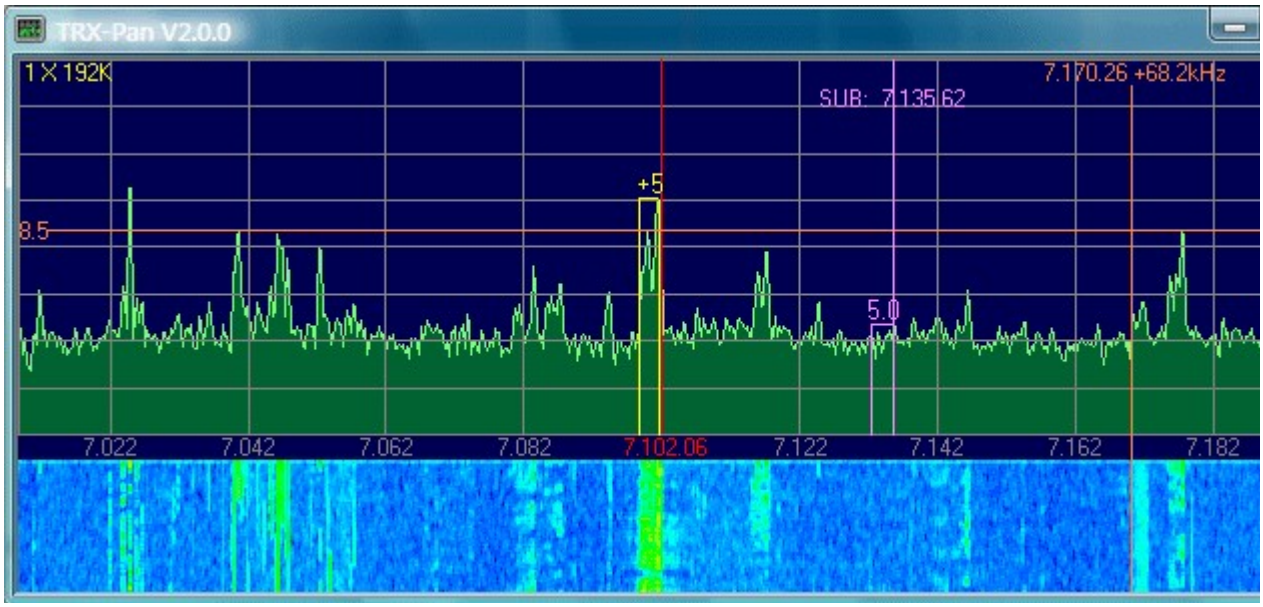
A Panoramic Spectrum Analyser for SDR **TRX-Pan** is delivered with TRX-Manager (*) ; it is an external program accessible from the TRX-Manager's **External**submenu. TRX-Pan can work with a software defined wideband receiver with I/Q output and a fixed center frequency (like Softrock) or a SDR centered on the IF local frequency of your transceiver controlled via CAT with TRX-Manager (like LP-Pan). In both cases, TRX-Pan provides real-time Spectrum Analysis and interactivity with TRX-Manager via OLE. TRX-Pan only supports Windows drivers.

It is fun to use even with an inexpensive Softrock SDR with a limited bandwidth centered in the 40m band connected to an RX antenna while TRX-Manager controls your transceiver on the same band (Warning: disconnect the SDR before keying down !).

TRX-Pan (with and IF Adapter and TRX-Manager) is optimized for Elecraft K3 Yaesu FT-950 and Yaesu FTDX5000 transceivers but can be used with any transceiver supported by TRX-Manager with more limited features (bandwidths are fixed to standard values in that case).

TRX-Pan is a also distributed with LP-Bridge by Larry N8LP (**) and is compatible with N4PY software .

See also : TRX-Pan for LP-Bridge



TRX-Pan with TRX-Manager + LP-Pan + K3 + EMU202
Sample rate is 192kHz, 16bits, Full screen mode
Displays shows Main and SUB VFO + Bandwidths

TRX-Pan has been written by Laurent F6DEX with collaboration/modifications by Larry N8LP. **It is delivered "as is" for your enjoyment with this comprehensive documentation** . It may be updated in the future.

(*) TRX-Pan V2.1.3 or later requires TRX-Manager V 4.5.8 or later.
(**) LP-Bridge is not required for users of TRX-Manager which provides a specific Synchro mode.

Setting up TRX-Pan

Click the **Options** button:

Critical parameters:

- **Audio Input** (it is possible TRX-Pan does not support all Sound Cards and/or all Audio input settings)
- Select **Sample Rate (S. Rate)** according to your sound card. Generally, for a standard sound card, 44100/s (44 kHz display width). Up to 192kHz with some sound cards.
- **Reverse I/Q** (Left/Right Channels). Reverses the displayed sidebands (same as reversing I & Q audio cables).
- **CAT Control** :

TRX-Manager *if TRX-Manager is running on your computer and set up for any transceiver (K3 excepted). You must Fill in* ***Offset*** *for each mode*
TRX-Manager+K3 *if TRX-Manager is running on your computer and set up for a* ***K3*** *. You must Fill in* ***GlobalOffset*** *if necessary (-6.0 or 0 or...)*
LPBridge *If TRX-Manager is not installed on your computer. LP-Bridge allows interactivity between TRX-Pan*

*and various transceivers. You must fill in **GlobalOffset**. Please note LP-Bridge is not required for users of TRX-Manager which features a specific Synchro mode for interactivity with other software or device.*
***N4LP**Allows interactivity with [N4LP CAT control software]*

SDR

- **LP-Pan (IF Adpter)** if you use an IF Adapter (like LP-PAN) connected to the IF output of your transceiver
- **SDR Fixed LO** it is the case with an SDR like Softrock and a fixed LO

Other parameters:

- **Sound card resolution** : 24bits or 16bits. While 24bits may slightly lower the noise floor, 16bits consumes fewer ressource and, in practice, gives better results (24bits is disabled in this version).
- **Apodization** : Also called "Windowing" in other SDR apps. Select a filter or none. Apodization smooths the signal trace but increases apparent noise floor. **Blackman Nuttall** is the more efficient with 16bits. None is preferable with 24bits.
- **FFT Bins (Accuracy) : Determines the Resolution Bandwidth (RBW) which is a measure of frequency resolution of the display. 4096** (default) is usually adequate when viewing a large bandwidth at normal screen sizes. More than **16384 bins** slows down the display on older PCs. Generally, other software (like PowerSDR) operates with 4096 or 8192 bins. TRX-Pan can be used with up to 65536 bins for excellent frequency resolution when zoomed into narrow spans.
- **Smooth 0Hz spike:** With high quality sound card (like EMU202), there is no visible spike at 0Hz. This setting is only required with standard sound cards displaying a prominent spike at 0Hz.
- **Colors** and other display options (**Design** = preference for the display), **Band/Mode SW Always** (Band/Mode Switch is always visible)
- **MAX/AVG Samples** allows setting the number of samples for integration of **MAX**imal/**AV**era**G**e values of the signal (0 = instantaneous). 3 is usually appropriate.
- **QSY Detect.**: If checked, this option resets integration to zero (MAX/AVG= 0) during QSY to speed up the display.
- **Priority: Real time** (not recommended): By default TRX-Pan uses the Windows's **High** priority during capture of the data. If **Real time** is checked, TRX-Pan takes the priority over all other applications during the capture. This may improve synchronization but other applications (and sometime the system itself) may hang up a little.
- **High Res. Zoom** : if checked, TRX-Pan automatically adjusts Sample rate to match the current zoom level and to give the best possible resolution (please note some values of sample rate may be NOT supported by your sound card ; **this function may be not compatible with the use of other audio applications at the standard sample rate; if you get any error message, please uncheck this option...**
- **Flip I/Q on 6m** : Flip I/Q on 6m (K3 and other rigs with a reversed conversion scheme on 6m)
- **CW: Flip** and **USB: Flip** : Flip I/Q for CW and USB (vs LSB). Required JUMA TRX2: DC Receiver with Phasing.
- **Offset** (in KHz) by mode. Compensates for the carrier shift used in the transceiver for SSB and CW modes begtween TX and RX. If you use a K3, these parameters are NOT used since TRX-Manager and LP-Bridge track the K3's IF.
- **Global Offset** is required for all radios. It corrects for the intentional IF frequency offsets designed into most SDR hardware such as SoftRock or LP-PAN.
- **MouseWheel** and **Steps**: Mousewheel allows fine frequency adjustements with various steps for each mode

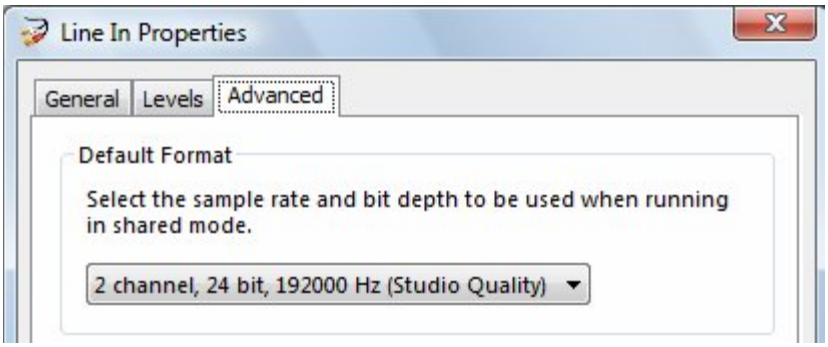
Using TRX-Pan

Connect your SDR to the Audio input of your computer (MIC or LINE input depending on sound card), adjust Computer's MIC or LINE gain. For an EMU 0202, recommended gain are:

- 16 bits 50% (computer) and +12db (9 O'Clock, sound card) for each channel.
- 24 bits 25% (computer) and +12db (9 O'Clock, sound card) for each channel.

Under Windows 7/8 or Vista

*If your sound card supports sample rates higher than Windows default (44kHz) (i.e. EMU 0202 supports 96kHz and 192kHz) and since TRX-pan only supports Windows drivers,**you have to configure the Windows recording format accordingly** (i.e for the highest sample rate to be used with TRX-pan) **otherwise you may be not able to run TRX-Pan using sample rates higher than 44kHz !**). Please left click on the Volume icon of the task-bar: a pop-up menu will appear. Select the Recording submenu and a new**Sound** form will pop up. Please click the **Properties** button for the device you are using. Click the**Advanced** tab and under **Default Format**, select the highest sample rate and resolution that you will use with your sound card (**typically 24bits/192000Hz for an EMU202**); close the sound form. Now, please configure your sound card using the utility provided with your driver (i.e the **EMU's control panel**) and configure it for the same settings.*


Line In Properties
General
Levels
Advanced
Default Format
Select the sample rate and bit depth to be used when running in shared mode.
2 channel, 24 bit, 192000 Hz (Studio Quality)

Configuring an EMU202 for 192kHz

Launch TRX-Manager

> ***Note***
>
> *Instructions below may be specific for the use with TRX-Manager (if necessary, please see LPBridge or N4PY helps systems for more information).*

Click **Start** to start the analysing.

If you use a fixed reference, a vertical line shows the current frequency of your transceiver. The current frequency is always +/- centered.

Inside of the grids, Left click the display (spectrum) to set up your transceiver... (point-to-click Frequency changes). Right click the display to set up the TX frequency. When using LP-Bridge, left click changes the VFO A frequency, and right click changes the VFO B frequency, which usually controls the TX frequency when in Split.

K3 (and TRX-Manager)

The relative position of the Main bandwidth indicator shows the IF Shift value, but the relative position of Sub bandwidth indicator does not follow IF shift since this parameter is not available via CAT. The Sub markers does represent the correct sideband and bandwiths, however.

YAESU FT-950/5000 (and TRX-Manager)

Main VFO markers represent supported the correct BW and IFShift in SSB/CW/FSK (AM/FM use standard values). However, Sub BW=Main BW by default.

TRX-Pan (and TRX-Manager) with other transceivers

Bandwidth markers use standard values (SSB 2.4kHz, CW/Data=500Hz, AM=6000Hz, FM=12000Hz).

MAX/AVG

Allows integration of maximum/average values of the signal for the number of **Samples** defined in the preferences. **PEK** (PEAK) freezes the display on maximum values. If **QSY Detect** is checked (options), integration is disabled (to **NOR**) during rig tuning. **BPH** (Background Peak Hold) allows signal peaks beeing displayed in background.

Full screen mode

Click to toggle Full Screen mode. In full screen mode, please type **Escape** (keyboard) to go back to the normal screen and **+/-** or **Z** for **zooming** or use **Left (Zoom)** and **Right (Screen mode)** mouse clicks **outside** of the grid.

Spot

After tuning to a signal, clicking the spot button will center it in the passband. It is designed mainly for CW and AM, but works pretty well even in SSB. If there are multiple strong signals in the passband, it will center the strongest one.

Peak S-Meter

A **peak/S-meter** displays values is S points and db above S9.

MouseWheel tuning

Keyboard shortcuts A/B and F/S allows you tuning Main VFO (A) or SUB VFO (B) and choosing Fast Tuning (F=10XStep) or Slow Tuning (S=Normal). Please note mousewheel tuning from TRX-Manager is always faster than from TRX-Pan.

Waterfall

Off, 1/4, 1/2 allows you splitting the screen to your convenience.

Macro buttons

The **[...]** button (just right to the Stop button, during analysis only) opens the Macro button frame. A right click on a macro button opens the configuration dialog ; please note OFF option allows configuring a toggle with two commands. If **Band/Mode SW** Always is NOT checked (Options), Band/Mod Switch only appears as you press the [...] button ; otherwise it is always visible below the main frame.

Calibration

If necessary, click **CAL (Calibration).** TRX-Pan resets MAX/AVG/PAK integration to zero during Calibration. Click **Close** to quit Calibration. Note: To use CAL, TRX-Pan should be actively analysing and should not be in Full Screen mode.

From the Calibration screen, adjust:

- **Phase** and **Balance** (by using a strong carrier about 10KHz from central frequency) to minimize Image Frequency's level. A rejection of 50 to 60db can be achieved.
- **Range** and **Ref** until the spectrum fills in the screen, or to set the maximum and minimum levels you want to display (in dBm). **TRX-Pan remembers these settings for each band.**
- **Levels** to calibrate TRX-Pan for **-73dbm=S9**. A calibrated generator or simple generator such as the Elecraft XG-2 is required. In the absence of a generator, you can disconnect the antenna, tune the transceiver for 10m, and adjust the levels for a noise floor of about -130dBm to -140dBm with the K3 preamp ON, depending on whether the rig has the buffer mod and/or whether the LP-PAN has the optional preamp. **TRX-Pan remembers this setting for each value of FFTBins.**

Notes

- *TRXPan automatically ajusts levels according to the state of **PRE**amp and **ATT**enuator (K3),*
- *Levels interacts with the sound card input levels. If you experience clipping of the spectrum with strong signals, reduce your sound card level and increase Levels to compensate.*
- *Levels varie according to the number of FFT Bins and sound card resolution. **You have to recalibrate TRX-Pan for each value of FFTBins.** However TRX-Pan remembers CAL levels for the various settings and Range/Ref for each band.*

TRX-Command

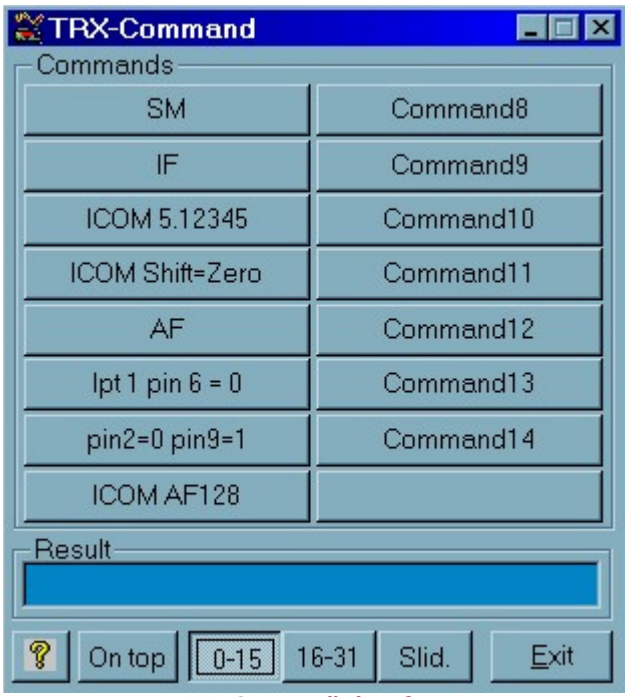
Sending powerfull macro commands (or direct commands) to a rig or a device under the control of TRX-Manager (or not) is possible using a separate program (**TRX-Command.exe**) running via OLE with TRX-Manager. The menu **External** allows you launching TRX-Command.

Related Topics

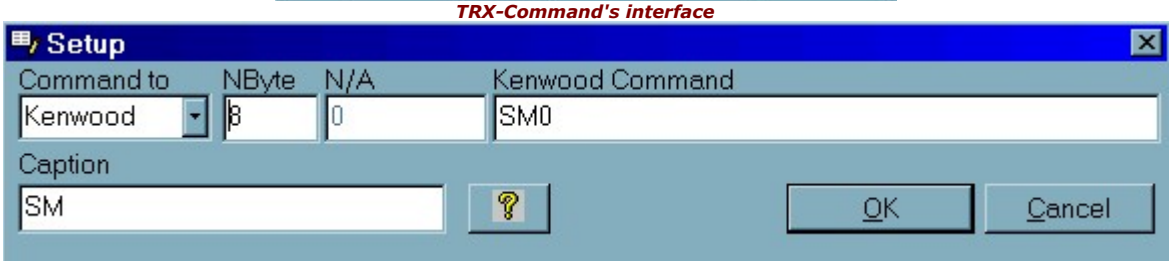
- CAT Programming
- Macro buttons (Monitoring)

Interface

The TRX-Command's interface features 16 Buttons (X2 i.e 32 commands) + 6 Sliders which can be configured by the user with a right click. Each button or slider can be named by a **Caption**; if necessary the **Result** text box displays the answer. The **On top** check box keeps TRX-Command on top of all other windows.



TRX-Command's interface



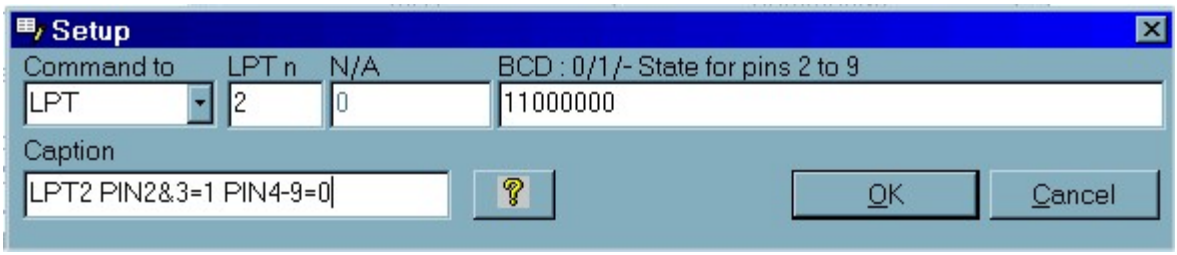
A right click opens this dialog from which you configure the button

Supported commands

Commands to a parallel port

These commands are sent via OLE to TRX-Manager; therefore TRX-Manager must be running when you activate the button and activate the parallel port (the **Custom** port is not supported).

Please select **LPT** for the **Command to** field, fill in the **LPT n** field with the port number and indicate the desired state for pins 2 to 9 using the following convention: **0**=low **1**=high **-**=no change.



Setup for LPT2, Pin 2 & 3 = 1, Pin 4 to 9 = 0

Direct commands to a local serial port not controlled by TRX-Manager

These commands are sent by opening the specified com port. Therefore this port must be free; if TRX-Manager is running, please make sure it does not use this com port.

Please select **Com (Local)** for the **Command to** field and fill in the **Port n** field with the port number and the **Settings** field with the necessary parameters using this format: Speed, Parity, n Bytes, Stop Byte (i.e : 4800,n,8,2).

The desired command is typed - exclusively in hexadecimal - in the **RS232 Command** field. If the command is a string, each character must be translated into hexadecimal.

Direct commands to a transceiver under the control of TRX-Manager

These commands are sent via OLE to TRX-Manager. Consequently, TRX-Manager must be running when you activate the button. Only commands to a Kenwood (+ some others using ASCII strings) and Icom transceivers are processed.

Depending on the type of transceiver (ICOM ou Kenwood), the syntax is different. You have to use the correct syntax by referring to the manual for your transceiver (see also CAT Programming).

In case of your transceiver is not an ICOM or a Kenwood, the STRING selection may work (not guaranteed) for a syntax written with Ascii strings : if Monitorings shows the macro buttons, TRX-Command will work in most cases.

For Kenwood

Please select **STRING** for the **Command to** field and fill in the **Bytes** field with number of bytes of the answer (if required); the command is typed in using the format required by the manual (the end delimiter "**;**" is not required).

For ICOM

Please select **ICOM** for the **Command to** field; the command is typed in using the format required by the manual but without Preamble + Addressees (**FEFEXXYY)** and without the End of message code **(FD)** : only the command, the sub command and the data area are required

Multiple commands

Multiple commands (in a chain) are possible; the multiple commands are separated by a slash (/).

Commands to the remote station (SERVER)

When controlling a remote station using TRX-Manager, you can send commands to the **SERVER** station using TRX-Command. Macro commands (same syntax as above) sent to the SERVER station are ignored by the CLIENT station.

To send a command to a Remote serial port other than the transceiver in use, please select **RS232 (Rem)** for the **Command to** field.

Customized sliders

Same syntax as above but includes digits for the slider. The command string includes as many ***** (joker) as the number of digits required by the protocol. Min and Max values are always decimal starting from 0 to 255 (generally).

Example

ICOM *: Command for AF gain is 14010000 to 14010255. Syntax = 1401**** (4 digits required) with Min=0 and Max=255*
KENWOOD *: Command for AF gain is AG0000 to AG0255. Syntax is AG0*** (3 digits required) with Min=0 and Max=255*

Distribution

License agreement

Copyright

TRX-Manager - Copyright © 1999-2015 Laurent Labourie. All rights reserved.
IDDN.FR.001.180003.00.R.P.1999.000.31400

TRX-Manager is not a free software.

EVALUATION version (Demo)

The functions of the **EVALUATION** version are not limited except … it will not communicate more than 30 minutes with the interface of the transceiver.

You may use the evaluation copy of TRX-Manager for a period of 30 days, after which, if you decide to continue using TRX-Manager, you are obligated to purchase the Licensed version. After the 30 days evaluation period is expired, the use of the evaluation version of TRX-Manager is still possible and permitted for testing pupose only.

See also

- How to order ?

LICENSED version

The **LICENSED** version (or commercial version) is distributed as a downloadable and personal file compiled with your personal data encrypted. A single copy of the licensed version of TRX-Manager may be used by a single person who personally uses the software on one or several computers (or two in remote mode) or a single entity (a club with an unique callsign). The license and all the associated files are strictly personal and not transferable.

Up to three registered callsigns are accepted per license : for your personal usage (special and personal callsigns, previous personal callsigns) or for the use by immediate family members living with you. We may ask you to prove they are personal. For a club, only the club's callsign can be registered.

Upon purchase of TRX-Manager V5.X, you are eligible for 36 months of free downloadable updates or upgrades.

Communicating a personal file to a third party invalidates the license and may result in civil and criminal charges. Using a pirated/copied version may prevent any further installation of a registered version.

Distribution

TRX-Manager is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. TRX-Manager is licensed, not sold. Reproducing the **COMMERCIAL** version of TRX-Manager is strictly prohibited.

Anyone distributing the **EVALUATION** version of TRX-Manager (Demo) on CD-Rom for any kind of remuneration must respect the conditions explained in the documentation.

Return policy

PDA does not accept returns on TRX Manager. Please try before buying. Because of the nature of software, this is the best way to protect our copyrights. Thank you for understanding. If you experience problems with our software, please contact us for a support.

Disclaimer of warranty

In any case you should carefully read the following terms and conditions before using the software.

USERS OF THE SOFTWARE MUST ACCEPT THE FOLLOWING DISCLAIMER. BY USING THIS SOFTWARE YOU ARE CONSENTING TO BE BOUND BY AND ARE BECOMING A PARTY TO THIS AGREEMENT.

TRX-Manager IS SUPPLIED "AS IS". PDA DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR ANY PURPOSE. PDA ASSUME NO LIABILITY FOR DAMAGES, DIRECT OR CONSEQUENTIAL, WHICH MAY RESULT FROM THE USE OF TRX-Manager.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, TORT, CONTRACT, OR OTHERWISE, WILL PDA BE LIABLE TO YOU OR ANY OTHER PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER OR TRANSCEIVER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.

How to order TRX-Manager

TRX-Manager is sold py PDA, Inc

Personal Database Applications, Inc.
1323 Center Drive
Auburn, GA 30011-3318
USA

Tel 770-307-1511
Fax 770-307-0760

*Email*pda@hosenose.com
Secure server from http://www.hosenose.com/trx-manager

The price paid includes the license and the delivery of the files required to install and register a licensed version based on your callsign, your name and some other personal data.

Please check that the software is compatible with your system and your station before ordering since, once the license is notified, it is not refundable.

Please do not email the author but contact PDA for any information on price, delivery delays, the status of your order, etc...

Backup your registered copy

TRX-Manager is a **DOWNLOAD-ONLY** product. After your order is processed, you will receive an email with a link to your personalized download. We STRONGLY RECOMMEND burning your download file onto a CD for backup purposes.

Necessary information to register

The following information is required for registering :

1. CallSign (optional)
2. Full name (mandatory)
3. Full postal address (mandatory)
4. E-mail address (mandatory)

Please give us a reliable email address. You will receive the link to your download via email.

Callsigns

Callsigns are optional but strongly recommended. Your full name will be used by default. If necessary, you may request a new file registered to your new callsign or to a special (personal) callsign free of charge during the 3X years of free downloadable update. Up to three callsigns are permitted (see License). It is preferable to notify the different registered callsigns when ordering. We may ask you to prove that they are personal.

Registering TRX-Manager

Any version or copy of TRX-Manager (Licensed) V5.X shall be registered.

Please install the licensed copy using instructions provided and your personal file (SETUP_TRXXXX_IDYYY.exe where XXX is the version number and YYY your customer ID). To run the installation kit, you need a **password** which is included in the instructions for your download. The password is easy to remember and prevents any mixing between files (each file is personal).

After the program is installed, it starts the first time as unregistered. Registering the program requires you confirm the validity of your personal data.

After a first installation, the Registration dialog pops up. However, in case of a previous version was installed already, the Registration form is not displayed and you access it from the Parameters/Registration submenu.

You just have to confirm your data and acceptation of the license agreement.

It is then necessary to start the program again to validate the registration.

Good to know

TRX-Manager accepts registering up to three personal callsigns (see License agreement). You can choose the callsign to register from the Registration dialog but you may also change the current registered callsign at any moment from the Preferences/Software Location tab for the current use of the software (logging, spotting...).

If necessary, you may request a new file registered to your new callsign or to a special (personal) callsign free of charge during the 3X years of free downloadable update.

IMPORTANT NOTES

- *All the files are strictly **personal**...*
- *Personal data are displayed in the **About** and **Registration** dialog boxes,*
- *TRX-Manager **prints** the Callsign on QSL labels*
- *TRX-manager **sends** your Callsign to a dx-cluster, as a **name** with **an** EMail*
- *The **Evaluation** version (Demo) or a **patch** can not be registered: you need to purchase a license.*

Support and upgrade policy

Please don't hesitate to visit the TRX-Manager web site at http://www.trx-manager.com for keeping you informed about improvements and new features of the program. Please see How to Order and contact PDA for any information on delivery delays, the status of your order, etc...

Contact and support

If you can not solve the difficulties related to the use or the configuration of TRX-Manager excluding hardware or Windows configuration problems (please see the Troubleshooting section and the TRX-Manager's support page), you can ask your questions by email. Answering is done as soon as possible (within 1 - 5 days) giving priority to registered users. Thank you to understand that a delay of one week or more is possible around Christmas and Easter or during the summer holidays season.

Please provide as much information as possible about the **transceiver**, **interface**, **PC** and **version** of the program (see the **About** dialog box) you are using. The more information we have about your system the easier it will be to help you.

How to explain your problem?

Please understand that "my program is not working" is an inefficient indication... which costs "you" an email for nothing. We need at least to know what happens (error message, what is not working, what are the conditions and the steps to reproduce the problem...)!

You may also send in your email the full listing of your configuration using the ***Parameters/My Configuration*** *submenu.*

Also, if you'd like to make a suggestion or a comment about TRX-Manager, please don't hesitate to contact us. All remarks, good or bad, will be welcome… Please note that an update for a specific transceiver or device is possible.

If you send an email, please:

- *Only use the TEXT format and ZIP attached files otherwise your email may be deleted by the virus filter*
- *Due to spamming, email adresses may change frequently : please see the web site for the current email adress.*

Mailing list

A Forum in English is devoted to TRX-Manager. Registering the forum list is highly advised in order to receive information on the use of the program or its evolution. The instructions are available on the http://www.trx-manager.com/support.htm page.

Update and upgrade policy

Upon purchase of TRX-Manager V5.X, you are eligible for 36 months of free downloadable updates and upgrades. The purchase date is based on the day your order is processed. When that 36-month period is up, you may sign up for another 3x years of downloadable updates.

How to install an update

To update your copy of TRX-Manager V5.X, you have to download a patch (trmupxxx.exe) from the Whatsnew page of the TRX-Manager's web site, install it by running the exe file ***while making sure the target folder is correct****.*

Please note that you cannot register updates or upgrades : you must have a current registered program.

See also: Installation, reinstallation

Upgrades from early versions of TRX-Manager (prior to V5.0) are not available for download: a full version of TRX-Manager V5 can be obtained at a lower price for registered users.

The update/upgrade policy may be modified especially in the case of significant changes in the Windows operating system (i.e new Windows system).

Versions history

• V 5.5.2

- QSL Labels printing : Correction in case a selection is active
- ICOM - Update for the new firmware: IC-7800 (V3.1), IC-7600 (2.0), IC-7100 (E4)
- HamQTH now uses https

• V 5.5.1

- ICOM: Polling option
- QRZ_XML: Fix for State field

• V 5.5.0

- OmniRig: crash at startup fixed
- Logbook: support for LogEQF and F6ISZ (Carnet) removed
- Update for QRZ.COM

• V 5.4.9

- QRZ.COM Lookup: now similar to other database, auto-login and improvements
- Support for HamQTH (Search, DXCC, Activity), can be used with QRZ.COM
- support for GoList removed

• V 5.4.8

- SteppIR : new design, new (optional driver), Synchro 2 now supported (limited), fixes.
- TRX-Tools: fixes and some support for Windows emulators
- Support for ICOM IC-7850, IC-7851
- support for IC-7800 (V3.1) with thanks to Larry KJ6YVT

• V 5.4.7

- Fixes for Yaesu FTDX-9000, FT-2000
- Cluster (autoconnect): support for a password
- Band plan : improved support for RTTY and DATA modes (L-D, U-D), PSK, PKT. Please edit your preferences or Reset to the (updated) IARU band plan
- Support for K3S

• V 5.4.6

- Prefix database updated
- Fix for ICOM IC-7200
- Digital modes: Interface with Fldigi, MMVARI Engine implemented

• V 5.4.5

- Improved support for ACOM 600S
- Fix for QRZ.COM (HAM DB)

• V 5.4.4

- Remote control: direct control of VFO B for the compatible transceivers
- Support for ACOM 600S
- Support for FT-991

• V 5.4.3

- Black list now editable
- Labels: From page option (to resume a printing session)
- **ICOM 7100/9100** : FM-Data mode added
- K3/KX3: Power ON supported using an RTS or DTR Line
- DXCC Summary: now uses the Logbook's fonts, window is configurable
- QRZ Databaseand Internet look up: automated copy of some data to the log

• V 5.4.2

- Prix database: update for TX5W
- Fix: sometime the program reopens when exiting

• V 5.4.1

- WebCluster (DXSummit): Spotters distance calculated using Server Data (configurable)
- Spotters Distance configurable (default=5000Km)
- BlackLists for DXSpot and Spotters

• V 5.4.0

- Update for NOAA SFI's URL
- Prefix database ready for K1N (Navassa)

• V 5.3.9

- new change for the DXSummit WebCluster

• V 5.3.8

- Support for TS-590SG (**Warning: if you use a TS-590, select now TS-590S**)
- FT-990S: support for the internal (CAT) CW Keyer
- FT-990/590: improvements for the sub-transceiver module
- DX Clusters: improved calculations for the spotter's location
- WebCluster: updated for the New DXSummit (click default URL to update)

• V 5.3.7

- XFC/TFS/TXW function updated (Split Operation)
- Logbook : CW Toolbar option (Preferences)
- Mailer updated: supports Authentification, Security options
- Prefix database updated for FT4T

• V 5.3.6

- Dual RX transceivers: SUB VFO tuning suppoted from the Monitoring
- Various small fixes

• V 5.3.5

- KX3 & K3: FIX for the DATA/TEXT terminal (faster end of transmission)

• V 5.3.4

- KX3: FIX for the display in TEXT mode

• V 5.3.3

- SMIRK Contest added

• V 5.3.2

- Minor fixes for ICOM, Elecraft rigs, temporary fix for Spotting from LOGic
- Band decoder: RS232 controllers supported, macro-commands to the band decoder supported.

• V 5.3.1

- **Rotor control** (fix): no display in some cases
- Sub Transceiver: new design with s-meter, more function buttons (depending on rigs).

• V 5.3.0

- " **FAST" digit tuning** option (see this section of the help for more information)
- **Logbook**: Distinct fonts for the Logbook's Listing (+ saves the font correctly)
- Major revision of the Remote control now please use only the **Transceiver/Remote TRX** window, new remote control window, UDP protocol added, simplified and improved operation (note: all previous settings are lost), fix for the display of Rotor2.
- DXCC Update: update the **QSL_Sent** field with the default QSLS field (preferences)
- Contest : Fix for the **WPX** contest
- **New menu**: Parameters/My Configuration

• V 5.2.9

- CQZ Summary. Tools/DXCC Update command formats CQ Zone with two digits.
- Synchro: fix for Kenwood command SM not correctly formatted.
- TS-590: improved auto A/B filter switching

• V 5.2.8

- Synchro mode : 6 additional ports (kenwood)
- Minor fixes for ICOM

• V 5.2.7

- Quick Edit of the log from the QSO Before window (just click a row)
- Winkey : some parameters (Weighting, Dit/Dah ratio, Key Comp, Port) saved BY Transceiver
- TS-590: command for Filter A & B, memorizes filter by VFO A/B
- Support for TS-990 (not fully tested)
- Update for DXSCape Web Cluster
- Virtual serial ports created by VSPE do not appear (fixed)
- Shortcuts revisited
- Logbook: comment field now permanent, new field WEB
- FTDX-1200 : fix for Contour limits, APF frequency added
- Various other fixes

• V 5.2.6

- Fix for 16 bits color video adapter
- Fix for K3 Synchro mode
- Preferences/Software: specific tab for DX-Spots
- WebCluster updated for Simons' DX Cluster (CSV Format)
- Memory channels : displays of DCS codes instead of CTCSS Tones in some cases (fixed)
- TS-2000/480/590: Weird display of CTCSS tone in memory mode in some cases (fixed)
- TS-590 Pitch fixed
- TS-990 (in progress)

• V 5.2.5

- ICOM IC-7800/7700: ON/OFF function added
- Comp ports now supported up to 32

• V 5.2.4

- ICOM IC-7800/7700: update for new new firmware V3.0. New functions: Power ON/OFF and CW Memories
- K3: MIC SEL menu fixed (selections added)
- FTDX-1200/3000: Auto Information mode was disabled at startup (fixed)
- DXCC Window: new option to display the band summary automatically

• V 5.2.3

- DX Tracking function updated
- K3: Refresh rate of QSX improved (SUB VFO Tuning) if SPLIT+SUB ON, Refresh Rate of S-Meter improved
- ICOMs: sometime wrong display of RPT mode (fixed)

• V 5.2.2

- Minor fixes (labels, translations and commands)

• V 5.2.1

- YAESU: RX Antenna command added
- **FTDX-9000**: slight changes (delay between command now 200ms)
- DX-Spots filter: it is now possible to exclude some spots from the DXCC filtering

• V 5.2.0

- Support for FTDX-1200
- ICOMs : new functions, major update
- Monitoring: new design and graphic display of the bandwidth

• V 5.1.4

- Support for IC-7100
- IC-9100: Support for DV mode and DVTX Callsign added (D-Star)
- Minor changes and improvements for other ICOM rigs

• V 5.1.3

- FT-2000/5000/9000/3000/950 : important fixes and improvements. **WARNING: Please ensure that RTS (TRX-manager) and the transceiver (menuu) are matched**
- EAGLE, ARGONAIT VI: please check settings and RTS values

- K3 KX3: fix for WID/CUT mode
- Minor other fixes

● V 5.1.2

- Various optimizations (Comm, design)
- Link with LOGic updated

● V 5.1.1

- Monitoring : new analogic dial
- DLLs added for Yaesu rigs (missing in V 5.1.0)
- Various fixes

● V 5.1.0

- Support for TenTec Argonaut VI, FTDX-3000
- Fixes for FTDX5000 FT-950
- Optimization for SteppIR
- Comm control: optimization for all devices
- New graphic slider with mousewheel control
- K3/KX3 FP : buttons now support mousewheel control

● V 5.0.9

- Monitoring: new design, new S-Meter

● V 5.0.8

- Interface with HAM Cap by Alex VE3NEA
- IOTA Award : Region selection added (AI BI WI)
- Summary for WAZ and WAS Awards
- Remote control: Terminal shows the basic status of the distant rig. Minor fixes. Address always 0 for Telnet (pse update both computers).

● V 5.0.7

- K3 and K3 FP: More tuning methods, On TOP switch
- K3 FP: Size reduced (Width<1024)
- 4m band added (Log, DX Spot filter)

● V 5.0.6

- Ultra Fast Logging: F12 or Enter option
- Help in English: totally revisited, new design (partially done in French)

● V 5.0

- New distribution, new license
- KX3 supported
- New graphic control screens for K3 and KX3
- IOTA Award tracking
- Contest mode

● V 4.7.2

- Webcluster crashes : fix for Windows 8 (new version of comctl32.ocx)
- new setup for patches
- additional link between CW Terminal and TT Terminal (K3)
- VFO link added for IC-7800 (F = Follow button of the monitoring)

● V 4.7.1

- K3 (Level)s : TT Mode improved
- Log (auto power) : improved
- minor fixes

● V 4.7.0

- Prefix database updated
- Logbook: **AUTO POWER** function (see Preferences/Logbook)
- Web Clusters and spots : fixes and optimizations
- Remote control : fix for the CW keyer (remote)

• V 4.6.9

- **QRZ Look up** : new format implemented
- **DXCC Award** : fixes (V/UHF excluded), band counter for current and deleted entities
- **Linear reminder** : display last power (MAX) even in RX, resume by dbl click or after band changes
- **Web cluster** : sort order memorized (for the current session only)
- Minor other improvements (K3)

• V 4.6.8

- TRX-Pan: FLIP I/Q settings added for CW and USB (vs LSB).
- Prefix database updated for NH8S
- Minor fixes

• V 4.6.7

- Remote control: Winkey now usable from Master for CW keying

• V 4.6.6

- minor fixes and update of the prefix database
- support for the Juma TRX2 transceiver

• V 4.6.5

- Fixes for TenTec Eagle and Orion
- K3: QSX (+/- kHz) added to the K3 Levels window
- Minor update of the prefix database
- Update of the documentation
- Support for IC-9100, fixes for IC-7410
- Prefix database: R1MV now deleted

• V 4.6.4

- TRX-Acom: remembers antenna change for the same segment (and session) + other fixes
- TS-2000 : fix at startup while TS2K is OFF
- Prefix database : fully updated for Russian callsigns (+Oblast), + other update

• V 4.6.3

- Prefix database updated
- TRX-Acom (hysteresis and TX/RX freq defaults)
- Update for QRZ.COM and REF-UNION database

• V 4.6.2

- TS-790 : fixes and improvements
- TRX-Pan : more accurate S-Meter, Band/Mode/Macro buttons
- 07/27/2011 : Prefix database updated for ST0 (South Sudan)

• V 4.6.1

- Eagle tested and fixed
- K3 Window: support for bargraph in TX mode (PWR only, see BG; command)

• V 4.6.0

- Support for ICOM IC-7410
- Support for TenTec Eagle (to be tested)
- DXTelnet : auto-reconnect function
- TRX-Pan updated V2.2.2 (Spot, BPH)

• V 4.5.9

- TRX-Pan updated (V2.1.9) : support for FT-950/FTDX5000 (with TRX-Manager V4.5.9), MouseWheel supported
- Support for TS-590
- Logbook/Export : Current SELECT Query can be used to select QSOs to be exported

• V 4.5.8

- TRX-Pan updated (V2.1.3)
- Prefix database updated for P5
- Various fixes for ICOMs

• V 4.5.7

- TRX-Pan totally revisited: new design, new options and features, image rejection improved...
- Logbook/search function: new options
- Logbook/LOTW: new options for import and export
- Terminal/Telnet: Improved Watchdog

• V 4.5.6

- TRX-Pan updated (fix for negative values of Phase, QSY Detect, new options...)
- Support for LoTW users list

• V 4.5.5

- **K3** : now reads and controls Sub **WIDTH** in real time, **mini-terminal** (K3 window TT) improved
- **ICOMS & K3** : fixes for Remote mode
- Linear: **amp inhibit** + **max drive power** options
- LOTW : support for **TQSL,** automated submissions
- New folders structure (**Use AppData**option): **Please see the important Note about folders used by TRX-Manager**
- TRX-Pan updated: Offset by mode, tracks K3'sIF and Hysteresis setting

• V 4.5.4

- updated for K3 firmware 4.14
- minor fix for "special prefix database"

• V 4.5.3

- Prefix database updated (PJ2-7)

• V 4.5.2

- Stop Sleep Mode option (preferences/software)
- K3 : optimized band switching, 2m band added
- DX Spots: more accurate filtering by mode; now filtering by **Type**(see Band Plan). **HAM** filter added (allows to exclude Spots on specific segments).
- DX Bar : option for fixed Scale

• V 4.5.1

- **PWB**predefined macro added
- K3 : Time Out for ON/OFF status increased from 10ms to 15ms
- **FTDX-5000** tested
- **FT-950, FTDX-5000** : predefined filters > IF SHift selected with Bandwidth, NAR function added
- **FT2000 FT-450**: Narrow function added : warning you must update your preference (see help)
- Terminal (Telnet) : watch dog

• V 4.5.0

- Support for Yaesu FTDX-5000
- Fix for ICOMs (polling of S-Meter)

• V 4.4.9

- Support for Elecraft W2 Wattmeter
- Support for Yaesu FTDX-5000

• V 4.4.8

- Support for YO3DMU's PSTRotator Interface added
- DXCC Window: configurable colors

• V 4.4.7

Fixes for ICOMs (channels, synchro) and K3

• V 4.4.6

- WebServer: Viewport tag, User defined tag, various fixes
- Logbook: auto backup for each day of the week
- Terminal: Auto Connect at startup (Telnet)
- K3 updated for MCU 3.94: Improved CW/Data Terminal (TT), new Graphic Equalizer (EQ), NB Levels settings (Levels).

Warning MCU 3.94 or later required

• V 4.4.5

- Remote: Watch dog function for Slave and Master
- Remote control: Web Server
- LogBook: **auto backup** (each day, the first time you launch TRX-Manager, located in **\Backup** folder)
- Monitoring: up to 30 macro-buttons, more predefined macros

• V 4.4.4

- Remote: Help updated
- Winkey: now support Winkey2 and WK_USB
- K3: updated for MCU 3.76, improved keyer/data interface
- QRZ XML: QSL Manager added

• V 4.4.3

- Changes for K3 MCU 3.66, Interface improved
- Remote: Slave connects Master option (for Experts)
- CW Skimmer : help updated, interface improved to display spots with "relative" frequencies

• V 4.4.2

- K3 : possible wrong behavior with QSX function (fixed), Link/Uplink button
- Monitoring: 8 macros available

• V 4.4.1

- Support for Digital Wattmeter ALPHAPOWER (4500 series)
- K3 Synchro mode (Synchronization with PowerSDR-IF possible)
- Logbook: special function for SWL

• V 4.4.0

- Fix for DXSpots with Split for ICOM with dual receive or dual watch
- ICOMs : MIC and COMP level added to the Levels window

• V 4.3.9

- K3 : support for **CW OFS** (firmware 3.19)
- Linear reminder: new options for OPR/SBY using VOX or RF Power.

• V 4.3.8

- Fix for Google Earth (Google Earth updated)

• V 4.3.7

- Support for IC-7600
- LP-100/100A in Remote mode: configuration fixed
- K3 : **Mode** and **Band** switches added (K3 Interface)
- HAMCALL: fix
- Tested under Windows 7 RC
- Update for DX Summit (Web Cluster)
- ICOM with Dual RX: behavior of VFO modified
- TRX-Tools available

• V 4.3.6

- Web Cluster : STOP button added
- OLE Automation error at startup fixed
- **K3**: **ESC** shortcut for XFC (Monitoring), update for firmware V 3.11
- **OmniVII** : fix for "0D"
- **FT-DX9000** : Power ON/OFF function added (CAT button)

• V 4.3.5

- Remote: Commands for SteppIR Interface

• V 4.3.4

- Special Event Callsigns
- Support for OMNI-RIG's Library by Alex VE3NEA
- Interface with Google Earth

● **V 4.3.3**

- K3 updated
- NRD-535 updated
- IC-7800 updated
- some changes for ICOMs
- Help updated

● **V 4.3.2**

- Support for LP-100A Digital WattMeter by N8LP (**Warning: You have to reconfigure your LP-100 from Setup/TRX1 !**)
- Support for IC-7200
- Interface with CW Skimmer by Alex VE3NEA
- Panorapic Spectrum Analyser for SDR: TRX-Pan
- Logbook: Export by Operator" now possible
- Support for RT-21 Rotor (Green Heron Engineering)
- Slave : IP adresses are shown
- Many fixes, optimization and new functions for Elecraft K3

● **V 4.3.1**

- Fix for older Kenwood

● **V 4.3.0**

- Synchronizing two controllers now possible (Synchro 1 or Synchro 2)
- Band decoder : now controllable by Segments of the band plan
- K3: LPBridge option

● **V 4.2.9**

- Elecraft K3: Filter selections updated, various fixes or improvements

● **V 4.2.8**

- Elecraft K3's tools/levels window

● V 4.2.7

- QSL labels printing : fix for Vista
- Rotator : Support for MicroHAM Interface

● V 4.2.6

- Support for **ICOM IC-7700**

● V 4.2.5

- Update for FCC Call
- Command line switch for TRX1..4
- FTDX9000 FT-2000 FT-450 : new DSP filters settings

● V 4.2.4

- Sub-Transceivers now support Transverter option
- New fix for Elecraft K3's filters

● V 4.2.3

- New update for OH2 DX Summit web cluster
- New update for K3 (Filters)
- Winkey interface (Underscore = Space added)

● V 4.2.2

- Fixes for Elecraft K2 & K3
- Update for the new DX Summit Web Cluster, Browser included (IE required)

● V 4.2.1

- SteppIR : Native mode supported (control window...)

• V 4.2.0

- Minor changes for FT-2000, NRD-545
- Support for FT-950 (not tested)
- Prefix database updated
- Logbook: user default for **Transceiver** field
- Remote TRX : data flow reduced during frequency changes (Scanning), AutoInformation OFF is now really OFF !
- SteppIR : Frequency segments set up to 10KHz for best matches on 80m (hysteresis 1KHz), new algorithm and stop bits = 2 above 4800 bauds
- Auto Mode fixed
- Various fixes

• V 4.1.9

- Fix for Memory Channels (INFO not beeing transfered)

• V 4.1.8

- Fix for Winkey at high-speed (it was "hanging") + new option for serial-server
- CW : Remote option + Fixes
- FT-450 FT-2000 : Support improved (Levels follow the rig, more controls).
- Omni VII : support for Split

• V 4.1.7

- Elecraft K3 added with minimal support. More to be added in the future
- Support for LP-100 Digital Wattmeter
- Linear-Reminder improved : support for LP-100, user fields...
- TRX-Acom V 1.2.0 improved & support for ACOM Antenna switch, Watch Dog
- Support for RACAL 6790
- Logbook : **Suffix** option, auto **QSLSDATE** option
- Browser : **Google** added as search engine
- Change for FCC database via Internet
- FT-736 supported as sub-transceiver
- FJ added as DXCC entity (total 338)
- Various fixes

• V 4.1.6

- Support for Yaesu FT-450
- Support for ACOM2000 amplifier (**TRX-Acom.exe**)
- Prefix database updated
- Linear-Reminder (for manual amplifier or manual antenna tuner)
- DXSpots : DXCC Country now displayed with DXCC summary (DXCC Column)

• V 4.1.5

- LPT Driver updated for Windows Vista 64 bits

• V 4.1.4

- SWL Module : selection for **Font** added
- Browser : Search from **IK3QAR** QSL Manager database added
- DX Announce : **GRID>GRID** can be added to the comment

• V 4.1.3

- CW Keyer : 16 memory buttons, switchable **LOG** frame + now possible to click a memory button before the previous message is totally sent.
- TS-2000/480/K2: fix for internal CW keyer
- Support for Orion fixed with help of TenTec
- Synchro : ICOM selection added
- Support for Omni VII (Radio mode)

• V 4.1.2

- IC-756PRO3 : Multi-Meter fixed
- IC-756PRO/7800 : XFC updated
- WebCluster : fix for data with hyperlink
- Fix for Edit/Band submenu + 60m, 1.25m, 33cm bands added
- Setup's script fixed for Vista
- New settings for FT-2000

• V 4.1.1

- PTT via CW Interface, Setup fixed
- Improved support for FT-2000
- Winkey in remote mode : Speed fixed
- QMB : History function

• V 4.1.0

- NRD545: Fix for Notch
- html HELP system (chm files)
- IC-7000: support for NF1 & NF2
- IC-R8500 (SUB): support for NB & ATT
- CD-ROM : /X /XX suffix removed
- Transceiver (Preferences) : PTT Time Out option
- Recorder: Option to key rig automatically while playing

• V 4.0.9

- Fix for Error 91 on exit
- E5 prefix (ZK1) added

• V 4.0.8

- Winkey : Slider range matches Pot range
- QRZ.COM : Fix for **Name** and **Grid** added
- Master polls Slave every hour
- Wota : minor fixes

• V 4.0.7

- Support for FT-2000
- Update of the Prefix database

• V 4.0.6

- Fix for LPRotor
- New DXCC entities : **Montenegro** and **Swain** Isl.

• V 4.0.5

- Updated support for LP-100 (N8LP)
- Synchro (Kenwood mode) : RX and TX command added
- Satellite : support for **Sat_Explorer**

• V 4.0.4

- Support for IC-7000 improved (Memory channels: labels, bank A-E)

• V 4.0.3

- New specifications for WOTA (Who's on the air) + new options
- NRD545 : Range from 0.1 to 2000 MHz

• V 4.0.2

- Support for WOTA (Who's on the air)

• V 4.0.1

- **FT-840/890/900**: Fix for use as Sub-Transceiver
- Terminal: Two **Telnet** terminal available (remote + dxcluster...)
- **Band Plan**: Fix for **Type** in Preferences
- **Remote** : Fix to stop Scanning
- **FT-817/857/897** : Fix for BandScope + CTCSS/DCS

• V 4.0.0

- Support for Windows 64 bits
- Setup for four Transceivers
- Support for up to 4 Transceivers at the same time (one Main Transceiver, three Sub-Transceivers)
- Support for SO4R (**single operator four radios**) operation
- Synchro mode : Support for **SteppIR** beam and Kenwood, ICOM radios
- New comprehensive Band Plan (3 Regions supported)
- Auto-Mode : adjustable **Backlash** parameter
- New QuickMemories
- Support for logging to LOGic in real-time
- Support for QRZ Online subscriptions
- Support for FTDX9000ICPCR1000IC-7000

• V 3.8.8

- **IC-756 (&PRO) IC-7800** : Selection of VFO (Main/Sub) fixed

● V 3.8.7

- **Prefix** database updated for **3Y0X**
- Logbook : critical fields (Freq, Date, S-Meter) automatically filled in if empty
- ADIF : Error message added if binary fields found
- **Remote** and **Monitoring** submenu moved to **Transceiver** menu

● V 3.8.6

- CW Settings : **Internal CW Keyer** for each Transceiver (**please check your settings**)
- Dual Setup : Support for **SO2R** (Single Op, 2 radios), Reading **REG** files at Startup,
- Band Decoder selectable for each transceiver (Preferences/Transceiver)
- Remote: **Connect IP** option at startup, VoIPoption (at Startup), fix for TRX-Audio
- **TS-2000 (SAT mode)** : problem to set mode of SUB-VFO fixed
- Prefix database updated

● V 3.8.5

- Fix for TenTec RX320
- TS-570 TS-870 Elecraft : **RTS** HandShaking selectable
- **WebCluster** : stops download at 00:00Z (fixed)
- **FT-990 ROM1.3** - **FT1000D ROM5** and some receivers : Split ON on refresh fixed
- **Monitoring** : Up Down buttons (QSX) fixed
- SW Database : S-Meter threshold (scanning) selectable from the Toolbars
- Remote control : Slave transceiver selectable from **Transceiver/Slave**submenu ; Transceiver displayed in the tittle bars of the Monitoring and Remote windows. Before or after Real mode is engaged, standard control is possible from the Remote window (**?** button disables the real mode).
- Various fixes and optimizations
- If you are using Remote control, please update both Slave and Master!

● V 3.8.4

- Support for **NGT CODAN** transceiver **(UNICEF)**
- Monitoring: if configured as remote interface, macro commands available

● V 3.8.3

- TRX-Synchro : Update for Alpha amplifier : supports ON/OFF
- FCC_Call : update for FCC's Web site
- Orion Rotators : new option for **Orion PX** and **Orion PX 2.4** (most recents require PX 2.4)
- Winkey : Speed displayed (internal Pot) was wrong
- TRX-Command : Sliders added
- Monitoring : distinct **Layout** for each transceiver

● V 3.8.2

- **Monitoring** : FT-1000/920 only and Kenwoods: **B Follows A**function (see Lock Dial button)
- Winkey : Setting for **Pin 5** (PTT Sidetone...)
- **Setup** revised : DTR/RTS settings for Winkey, DTR/RTS/PTT... settings for each rig : **Warning if you use TRX2 !**
- 10m and 80m sub-bands : same split for both rigs (to define under Setup's LPT tab)

● V 3.8.0

- DXCC window : SFI button shows K-Index (status bar)
- CW keyer : Inserts Date and Time
- Scanning : Comment for each Scanning Memory (**Warning : previous data lost !**)
- TRX-Synchro : File option (behaves like a Kachina transceiver)
- Setup for TS-480HX
- TS-2000/480 + Internal Keyer + Real mode : Fix (run time error)
- Terminal : **Sound announce** toggle now enabled for DX Spots
- **TS2000/480** (Monitoring) : Initialization of AF Gain
- Prefix database updated for K7C (Kure Is.)

● V 3.7.9

- Scanning dialog updated
- **TS-2000/480** (Internal Keyer) : TX displayed during transmit
- Rotator Prosistel D : Elevation added
- Keyer : new Shortcut **** for [My Callsign] (US Keyboards), **BackSpace** key now deletes the last character in "real time" mode.
- Orion : support removed for this rig (but you can still use it)
- various fixes

● V 3.7.8

- Fixes for the Channels module (inopportune change of the Label)

- Winkey : Initialization may fail + text sent now appears at the CW speed.
- DXSpots, Channels : Listview control keeps the columns width (workaround for an old bug !)

• V 3.7.7

- Support for PROSISTEL D rotator
- Fixes for Orion PX rotator
- Improved support for Alinco DX-77
- TRX-Synchro updated
- Logbook : **Expert** mode, **user-defined** (fixed) **RST** for casual contesting
- Older ICOMs : Monitoring polls the transceiver every 500ms
- Various fixes

• V 3.7.6

- DX-Map : flickering of the display (fixed)
- **TS-480** : Meter fixed
- FT-1000MP/EDSP : TRX-Manager resets EDSP only if you key from the program
- Rotator : support for **Orion PX** firmware

• V 3.7.5

- Various fixes
- DXSpot (Web Terminal) : Single Click option removed (Double Click required)
- Support for the Winkey CW Interface.
- Keyer (change) : Key assignments for **Mess 1 to 8 = F1 to F8** keys, **Log** button SAVES the QSO, button added for Paste only.

• V 3.7.4

- NRD-535 : Driver updated for non-h versions + VFO A/B
- NRD-545 : VFO A/B
- DXMap shows current rotator's azimuth

• V 3.7.3

- Two identical rotators on same com port but with different Offset are accepted
- New driver for NRD-545
- Reduced **CPU Usage** for Yaesu rigs
- Support for **IC-756PRO3** (not tested)
- Optimization for USB-Serial ports
- Terminal& WebCluster : Column width adjustable to zero

• V 3.7.2

- Transverter option
- Function buttons : Option for **On/Off button**
- **Logbook**: DX-Atlas button
- TRX-Synchro : Updated for **Alpha amplifiers** and **Steppp-IR beams**
- Support for NRD-535

• V 3.7.1

- **IC-756PRO2 IC-7400** Support for **Data mode**
- Monitoring : Layout options
- **DX-Mail**: DX-Spot forwarding via EMail
- Remote control : Password for **TX+RX** or **RX only**(with other restrictions)

• V 3.7.0

- **Orion** rotator : support for feedback
- WebCluster/Preferences : **Stacked** option (Spots)
- Monitoring : New design
- Support for external Multi-Meter (**OLE**and Remote)
- **Preferences/Transceiver** : Settings saved for each transceiver (TRX1 or TRX2)
- **FT-100** : Meter data available (Monitoring)
- Support for **IC-7800**

• V 3.6.8

- OLE updated for N8LP Software
- DXBar : Scanning by digits improved
- Remote window : fully updated
- **Remote** (Keyer with ICOM in real mode) : fix for long strings

• V 3.6.7

- DX Spots : more comprehensive DXCC Award tracking for each spot, filters for 60m, 220MHz, 1.2GHz
- **QSO Before** : uses the Logbook's font

- **Remote** (Keyer) : fix for long strings
- Band scope : **Step** adjustable in Manual mode
- Remote control : azimuth feedback (**rotator)**

• V 3.6.6

- **TS-2000** : button for RX Antenna (Misc tab)
- TS-480 : option for **Wid/Nar1** filters
- Translation in German, Spanish and Polish updated
- WebCluster : Incoming spots are now **added** to the display

• V 3.6.5

- Support for Argonaut V transceiver
- Support for Jupiter transceiver
- **Translation in German by Eike DM3ML**
- DX Tracking by **band**
- **IC-756PRO2** : NR's right click engages a timer
- TRX2 : **DX Spots** accepted (DXClusteror WebCluster context menu)
- DXSpots : Log filter (allows filtering by Callsign + Mode + Band)
- LogBook : new fields for **QSLSDATE** (Date for QSL_Sent) and **QSL_SENT_VIA** (Method). **Warning** : please delete the layout file (**.GRD**) associated with the database to make these new fields visible from the Listing.

• V 3.6.4

- Translation in **Polish** by **Marek SP7DQR**
- Monitoring, **INC** function : sub menu for **Step**
- Remote : **Synchro** button (Remote Window)

• V 3.6.3

- Support for TS-480
- **Rotator** : fixes for Rotor EZ/HY Gain
- Monitoring (**Tuning control**) : new scanning functions, improved support for USB Knob
- Logbook : **Real Time** option (default)
- Remote control: TRX-Command supported
- **ICOM**: Real remote control mode (full control via TCP/IP)
- VUCC : Update for DXAtlas 2.24

• V 3.6.2

- Monitoring : new tuning control and improved support for the mousewheel
- Browser : customized list of Favourites
- Support for TenTec RX320 receiver
- **Kenwood** : fix of memory channels editing dialog
- TS-2000 : selection for **AF/SQL** or **AF/RF** Gain controls
- **TS-2000 Elecraft K2**: full control of the com port via TCP/IP
- Interface with **MultiKeyer** (by **KD5HIO**)
- **Rotor**(Spidrotor1/2) : Reverse Mounted option allows rotating from -180° to 180°, Feedback
- **WebCluster**: Watch List
- Recorder : Sound card is selectable
- Menu and DX Bar : buttons for **60m** and **23cm** bands
- **Logbook** : 1.25m, 33cm, 23 cm bands added
- **QSO Before** : new columns for Comment, RS/T
- Preferences : **Active Border** option

• V 3.6.1

WebCluster : now compatible with **DXSCape (www.dxscape.com)**

• V 3.6.0

- **F7**(Hotkey) opens the DXCC window (clears and gives the focus)
- QuickLog function : fixes and improvements
- **ICOM** (Levels) : Manual Notch control, RF Power (if available), Selected Filter Width (756PRO2)
- Support for TenTec ORION transceiver
- Remote control : support for CTCSS/DEC/SHIFT/OFFSET commands (Repeaters)
- Function to save the parameters of the Registry
- Internet Callsign Look-up : option for External Browser
- Current Spot : new keyboard shortcut (**F4**)
- Support for the LogBook of The World

• V 3.5.9

- **ICOM** : Fix for S-Meter (sensitivity)
- Fixes for **FT-767GX** (CTCSS)
- **LPT Port** : driver updated (TVICLPT 1.3)
- DXBar : Optimization
- Monitoring (**keypad**) : band switch (**Bd** button)

- Satellite : support for WXTrack
- CW Keyer : Speed from 1 wpm to 50 wpm

- Remote interface : Frequency up to 1300MHz
- **Prosistel** rotator : fix
- **LogBook**: Duplicate submenu (QuickLog mode)

• V 3.5.8

- **ICOM** : F2 function (VFO) causes an error (fixed)

• V 3.5.7

- Update for the AlfaSpid controllers (RS232)
- TRX-Synchro : new version and new **Dual Receive** mode
- **IC-706MKIIG** : + WFM
- **IC-703/746PRO** : Tuner disabled at startup (fixed)
- **TS-2000** : **Scanning speed** improved, **SUB ON/OFF** button, **PBT** (DSP) display
- New menu **Transceiver**, **Com Port Off** option (ICOM, Kenwood only)
- New menu **External** (for external programs)
- Satellite : if TRX2=ICOM, TRX-Manager reads the TX Frequency
- **Terminal (Telnet)**: DX Spots broadcasting via Packet

• V 3.5.6

- **IC-706MKIIG/746PRO/756PRO/756PRO2/R75/R9000/R7100** : New controls (Levels window), preferences and display for 3 filters (if available)
- Support for **IC-703**
- Support for FT-212/412
- DXCluster, WebCluster : Filter for Spotters(>5000Km)
- TRX-Synchro : **Stepp-IR** control option
- Support for Spid rotor controllers
- TS-2000 : Button for Antenna 1/2 (Misc tab)

• V 3.5.5

- PTT Switching : option for **CW** Line
- Fix for some ICOMs

• V 3.5.3

- TS-2000 : ON/OFF function (or F9 key + Setup)
- **FT-1000MP** (fix) : RX EDSP / TX EDSP loading with "previous session"
- **IC-756PRO2** : Button for RX Antenna
- LogBook: new field QSL_Print

• V 3.5.2

- **Translation in Swedish by Magnus SM6VFJ**
- TRX-Command : 32 commands possible
- Logbook (Increased field length) : **Name** (25), **Comments** (100) - only for a new logbook
- Logbook (New fields) : **Notes** and **Address**
- **Prefix database updated**
- Customization of the Prefix database (11m possible)
- **Support for FT-857**
- Remote control : Polling command for the rotor interface

• V 3.5.1

- Browser : support for **eQSL** callsign look-up
- Minor fixes

• V 3.5.0

- New DX Bar window
- Terminal (Auto QSY) : option to stop the screen saver (see Preferences/Terminal)
- **DX Squelch** function to mute the receiver until a spot is clicked (**Tools/DX Squelch** button) ; see also Preference/Terminal to set up the delay.
- DXCC Summary (Details) : Option for **Sort Order**
- **DX Spots** (fix) : invalid spots are rejected if **spot status** option checked
- **DX Spots** : option for RTTY in the comment (Preferences/Terminal)
- Callsign look-up via the Internet, also accessible from the logbook (link with the fields of the log still not supported)
- **FT-1000MP** : the internal scanning command gives unexpected behaviors with some transceiver and has been removed. If your FT-1000MP supports this function, please configure the program for FT-1000MP MKV.
- Propagation : the **SFI** (Solar Flux Index) is now extracted from the NOAA server
- Remote window : buttons for Antenna switch added
- **Memory Channels** (Reading a file) : fix for **IC-746PRO** and probably **IC-756PRO/PRO2, IC-R75**
- **IC-746Pro** : fix for Channels in FM/Split
- Quick Split **: Split Memory**

- Memory channels : function for clearing all memory channels in one click (Icom and Kenwood only)
- ICOM : option **C00** (Setup) if the first channel is #00
- **Remote control**(Packet) : RC command to automate a reconnection
- **Logbook** : (true) fied for **Station** (Transceiver) added. If a layout has been created for your current database (file with **.grd** as extension), it is recommended you delete it in order to display the new field under the **Listing** tab.

• V 3.4.2

- Rotators : Support for **AlfaSPID** Rotor
- Remote control : **Internal tuning** (step by step) supported for more precise tuning
- Joystick control

• V 3.4.1

- Support for Yaesu **VR-5000**
- Support for **TS-711** and **TS-811**
- Satellite : support for **SATEL939**
- Logbook : **QSL_RCVD** field : **S** mark for "submitted" supported.
- Monitoring two **rotators** simultaneously supported
- Terminal (Auto QSY) : Option for All, Needed, New One
- Sound announces : option to play a wav file for a needed (only) country, priorities between wav files revised

• V 3.4.0

- Band decoder : new driver to support customized LPT port under Windows 2000/NT/XP.
- **FT-847** : CAT ON at startup fixed (again)
- **Logbook** : Mode on 3 digits (only if you create a new database)
- **SW Listening** : Support for ICOM with 3 filters
- Prop. prediction : indication for Sun Set and Sun Rise, WWV announcements
- Commands pannel : Scanning dialog updated (range)
- **FSK** mode selected when **RTTY** appears in the comment of a DX Spot

• V 3.3.6

- **FT-817/847/897/757/747** : improvement of speed (especially FT-817/897)
- **Remote control**: Specific command for TX in Split

• V 3.3.5

- Commands Panel : Improved accuracy of the display between 100 and 160 MHz
- **FT-847** : CAT ON at startup (fixed)
- Remote control : Setting up TX if split changes RX with FT-1000/920 (fixed)
- **IC-7400/746PRO IC-756PRO2** : Transceive ON at startup

• V 3.3.4

- DXCC Summary : calculation of the bandpoints, more detailed reports
- Logbook : Logging OFF for a selection of QSO
- **IC-R8500** : improved support
- Support for **FT-897**
- Database Grids : new system files (fixes)

• V 3.3.3

- new **Prefix**database much more accurate (2800 entries) resolving CQ, ITU Zones and provinces; derived from DXAtlas courtesy of **Alex VE3NEA** (**please run Tools/DXCCUpdate to fill in CQ and ITU fields of your logbook**).
- Band Plan : ability to split either the 10m or the 80 m band

• V 3.3.2

- **DXMap**& DXAtlas : a button allows drawing paths from Spotters to DX-Spots
- **VUCC** & DXAtlas : drawing the confirmed or worked gridsquares
- TS-2000 : 1.2GHz band supported

• V 3.3.1

- **Prefix.mdb** : update of the ARRL DXCC codes for **4W, FK/CH & VP6D** : **you must run the Tools/DXCC Update to update the codes for your previous QSOs**
- **LogBook** : minimizing the LogBook window also minimizes the CD-Rom, GoList, Fcc, QSOBefore windows

• V 3.3.0

- TRX-Command updated : multiple commands supported
- DX Atlas : interface improved
- DXCC Summary : detailed summary
- DXCC Window : detailed informations

• V 3.2.7

- **IC-746PRO** : memory channels interface fixed
- **Remote** window : **SUB** button added
- **TRX-Command**: an additional program that allows you to send direct commands to your Kenwood, Icom or LPT Port via OLE

• V 3.2.6

- **FT-1000MP** : smooth tuning implemented (may not work with older FT-1000MP)
- **HAMSCOPE**supports TRX-Manager via OLE
- **IC-821** : Main and Sub reversed in SAT mode
- **TS-2000 & K2** : probably a problem of priority with WinXP
- support for **N8LP**'s rotor interface

• V 3.2.5

- FT-1000MPMKV : smooth tuning implemented
- **IC-821 IC-910**: Fixes and updates in SAT mode

• V 3.2.4

- Printing the log : options for Margin and Font
- Prefix database updated for **Ducie Island** (VP6D)
- Satellite : support for a **transverter** (down/up converter)
- **Kenwood**: bargraph for COMP/ALC/SWR...
- Disabling the dual control (updated for Kenwood and ICOM)

• V 3.2.3

- Demo version fixed

• V 3.2.2

- Spanish translation updated
- Fix for the Kenwood's internal keyers (TS-2000/870/570 & K2)
- Extended support for the **Elecraft K2** transceiver

• V 3.2.1

- SW Listening : **Print** button
- SAT Interface : running two ICOMs on one com port supported
- Rotator control : with **Yaesu** and **HyGain**, the program polls the rotator for its azimuth
- Support for the GoList **QSL Manager** database
- Various fixes

• V 3.2.0

- TS-2000 : **Internal TNC** and **PCT** mode (Packet cluster data) are supported, **Sub receiver** supported
- Support for **Elecraft K2**, **IC-746PRO, IC-7400**
- Satellite interface
- Prosistel rotator supported

• V 3.1.4

- Log Import : **TRLog** (Ascii) files supported
- Auto-mode : switching the mode from the rig now possible while auto-mode ON
- **Remote** : **Dual** function added
- Telnet : Host field accepts addresses in the format xxx.xxx.xxx.xxx:yyy where yyy is the port number

• V 3.1.2

- Remote control fully updated, **auto-information** mode, CW supported, LPT Port control
- **FT-1000MP** & BandScope : sub VFO supported
- Various fixes

• V 3.1.1

- QSL Labels printing : page by page printing
- Support for **IC-756PRO2**, **IC-910**
- TRX Remote : Settings moved to **Preferences/Remote**, Password, Power control
- Shift option for TRX-Synchro + **FT-814/FT-847**
- Preferences/Transceiver : Options for Power, Tuner, Linear for each band (if available)
- Propagation predictor does nor work in december (fixed)

• V 3.1.0

- QSL Labels : **TNX QSL** or **PSE** QSL option
- Link with DXTelnet
- Sound announce for a New ONE (**Preferences/WAV**)
- Programmable Band Decoder

- **TS-570/870** : more controls (**Levels** window)
- **TS-570/870/2000**: CW Interface may key the rig via CAT
- CW Interface: Keying has been improved, Parallel port supported
- TRX-Synchro now supports **Kenwood** transceivers
- Various fixes

• V 3.0.2

- **Monitoring**: Auto Mode is an option (**Preferences/Transceiver/Band Plan**)
- Interface with DX Atlas
- Various updates of Prefix.mdb
- Preferences/Transceiver : selection of either 455 KHz AND/OR 8/9 MHz filters now possible (FT-1000 MP, TS-450/690/850/950)
- Web& DX Clusters windows : context button for direct logging
- **Terminal** (File upload) : fix for files > 1 K

• V 3.0.1

- **Web Cluster** : change of the POST method for DXSummit + bug fixed (Error 67)
- **ICOM** : fix related to VFO selection
- Minor fixes for **TS-2000**
- **CD-Rom** : fix of the Copy function
- **TS-2000** : Clarifier (wrong value)
- Interface for WinRotor
- **FCC** Module : Crash with non US Call (fixed)
- Memory Channels : support for FTBasic's file format

• V 3.0.0

- New version (reinstallation required)
- **Active resizing** of main windows
- Abilty to save/recall sessions (i.e. position and size of main windows)
- HF Propagation predictor
- New grids to display the database
- New short wave database
- Extended support for TS-2000
- Support for FT-817

• V 2.6.5

- Labels : Landscape/Portrait option available
- **IC-706MKIIG** : Tools/Levels window available with some controls
- FCC database : shows all records found (FCC_Call.exe also updated)
- **Spots** : filtering by mode now possible (see Preferences/Terminal tab)
- Logbook : F12 key saves the QSO

• V 2.6.4

- **LogBook** : Fix of the ADIF Sequence for County (CNTY)

• V 2.6.3

- Explorer (**Logbook**) : **Print to File** option
- **TS-570/870** : support for **Ant Tuner**

• V 2.6.2

- **Logbook** : **\LOGData** is now the default folder
- **FCC Database callsign look-up**
- **TS-570/870/850/950**(change) : Levels moved to the **Tools/Levels** panel

• V 2.6.0

- Logbook : additional fields for **Operator** and **Power**
- Importing : **LogPlus** supported
- JST : bi-directional communication
- Remote : Control of **AF level**
- **IC-706MKIIG** : Selection of filters fixed
- **FT-847**: DCS Code supported, **CAT ON** at startup
- **Awards** : **QSL_Sent = I** ignores the QSO

• V 2.5.2

- QSL Labels printing : a selection of the QSOs is possible
- Searching a QSO : a selection by **Band** or **Mode** is possible
- Monitoring : displays **A=B B=A** or **A=M** according to the VFO

• V 2.5.1

- **Prefix database** : **TX** added for **FK/CH**
- **Preferences** : divided into two parts (to solve a lack of memory on some PCs)
- Monitoring (fix) : **KEY** button staying grayed out when PTT set via RTS/DTR

• V 2.5.0

- Web Cluster compatible with **Asia Web Cluster**
- **Prefix database**updated especially for the Russian callsigns (+ provisional DXCC codes for **4W** and **FK/CH**)
- **LogBook's Explorer**(Tree view) and support for other awards
- LogBook(changes) : design, context menu to check in received QSL Card
- QSL Labels : Callsign may be printed in red (option)
- DXCC Windows : shows azimuth **FROM** the station
- Logbook : new field **EMail**
- Quick EM ailer
- TRX Remote control : automatic notification of the IP Address via EMail
- S-Meter : fix of value in µV above 30 MHz
- **TRX-Meter**(High precision S-Meter)
- **FT-1000MP** : fix for **Reverse** modes (incorrectly supported)
- **HyGain DCU-1** rotors supported
- **DX-Spots** : configurable icon (**Needed** for **Mode** or **Band**) under Preferences/Terminal
- **CW Interface** (Setup) : **Dash** and **Space** adjustment factors
- SW database: Delete button, SWLToDBF (fix) : automatically deletes invalid entries
- **FT-920** (addition) : some commands of the internal electronic keyer (**Tools/Int. Keyer**)

• V 2.4.4

- **FT-1000MP**: EDSP's preferences moved to **Tools/EDSP/Defaults**
- **DX-Spots** : manual filtering by band is possible (**Preferences** under **Terminal**)
- QSL (fix) : Band is printed if the frequency is not specified

• V 2.4.3

- NCDXF Beacons : wrong frequency on 10m

• V 2.4.2

- Commands panel : scanning range fixed
- ICOM **IC-R75** : improved support
- DX Map : Shows **NCDXF/IARU** beacons

• V 2.4.0

- Telnet terminal, **remote control** via Telnet
- Quick memories window : **history list**
- **Preferences** : up to five custom buttons
- Exporting the log : the **CSV** format (Excel delimited text format) is supported
- **QSO Before** : QSOs sorted by descending dates
- **Prefix database** : **KA** (Inversion between USA and Japan), **KC6** (Inversion between USA and Caroline)
- RA Callbook : **Grid Square** is calculated using the Latitude and Longitude of the station, improved support for the international database
- **CD-Rom** : **Preferences** for the fields to transfer
- **ADIF Import** : fix for the US states
- New Windows menu
- Support for **IC-718**

• V 2.3.6

- New icons
- Fixes for **TS-440/680/790**
- Support for the SWBC Schedules Subscription Service SW database
- Scanning (**Stop**) : the scanning resumes when the signal drops down
- VUCC (Grid square) award summary
- Logbook : **SAT**band has been added, advanced searchesand reports using SQL

• V2.3.5

- Preference for **CW** reverse
- Gridsquare award tracking : fix

• V 2.3.4

- Logbook : inversion between **CD-Rom** and **Previous QSO** searches - the program searches for the most recently entered information - 59(9) by default for **rstS** has been added to the **Preferences** (under **Logbook**)
- **DXCC**window : responding to 4 digits gridsquare, reporting if the gridsquare has been worked/confirmed before
- ILG radio database conversion utility
- DXLog and **EasyLog**conversion utility
- Support for Alinco
- Support for FT-747

- CW Sequencer, extended macros, automatic switching into TX
- TX Interrupt function (and improved interface with **VKE**)
- Help with **Index**
- Scanning : **Stop** option for immediate stop of the scanning

• V 2.3.0

- FT-767GX : support for CTCSS
- Update for the ILG Radio data files (pure Text)
- PTT switch via RTS or DTR line
- New logging mode (classic)
- Spanish interface (by **Arturo EA5AKT**)
- Commands panel : new **XFC** function (a must if you don't have a dual receiver)
- SWL : support for **AMW AMN FMW FMN**
- Support for the EA4TX's ARSWin rotator interface
- Control of two transceivers : fixes (faulty operation of some modules after the transceiver has been switched)
- ICOM : updated for **IC-756PRO**
- TenTec : updated for **Omni VI** and **Omni VI+**
- Internet browser
- **CW Interface**
- **CD-Rom** : configurable path
- Support for FRG-9600
- updated Screensaver and desktop's bitmap

• V 2.2.6

- Kenwood: bug fix (Auto mode)
- DXCC Window : bug fix (for 6/2/0.7 m)
- new Display/Windows submenu

• V 2.2.5

- LogBook : "**Transceiver**" type saved in "**Operator**" field (see **Preferences**)
- Ability to disable the RTS line (Setup)
- Commands panel : Grabbing of the VFO knob with the mouse
- Web Cluster : new design
- optimization of the CPU usage

• V2.2.4

- Ability to control two transceivers
- Support for JST transceivers and receivers

• V2.2.3

- new DXCC Window

• V2.2.2

- Preference for Distances **Km/Mi**

• V2.2.1

- Personalized Menus (**Office 2000** type)

• V2.2

- More support for the **FT-100**
- Support for the **IC-R75**
- ADIF Import : fixes
- New registration code required
- New distribution policy (CD only)
- **FT-1000MP** and **FT-920** : fixes
- Terminal : understands the nodes (PC11 spot format)

• V2.1

- Support for the **FT-100**
- Support for the **QRZ Pro CD-Rom**

• V2.0

- **FT-Manager** becomes **TRX-Manager**
- Support for the ICOM transceivers
- Support for the Kenwood transceivers
- new S-Meter
- Floating and flat toolbars
- Sound Recorder with 3 modes (Scanning, Programmable, manual)
- DX-Spot with **icon** showing the QSL's status for the DXCC (Web-Clusterand DX-Cluster)

- Drag and drop ability of frequencies between windows
- **Gray line**(DX-Map)
- Support fort both Log-EQF V8 & V9 format
- Remote control of a rig via packet
- **Favorite** Web link
- Support for French DDFM and DPF awards
- Support for the **HAMCALL** CD-Rom
- Ability to Load/Save the configuration of the FT-847
- You have now to double-click a spot to set the rig
- If you are using LOGic, run TRX-Manager FIRST

Distribution of TRX-Manager

Anyone distributing TRX-Manager for any kind of remuneration must first contact Laurent Labourie for authorization. This authorization will be granted to distributors with the following conditions :

1. *Only the* ***EVALUATION*** *version of TRX-Manager (****Demo****) may be distributed.* ***Distributing the commercial version or any file of a registered version is strictly prohibited****.*

2. *TRX-Manager (Demo)* ***MUST*** *be included in a compilation of shareware, demoware or freeware programs.*

3. *Neither the software nor its documentation may be amended or altered in any way.*

4. *By granting you the right to distribute the evaluation copy of TRX-Manager, you do not become the owner in any form.*

5. *Laurent Labourie accepts no responsibility in case the program malfunctions or does not function at all.*

6. *The distribution fee should only cover the cost of copying or distribution. Under no circumstance should payment of such fees be understood to constitute legal ownership (or a license fee).*

Contributions

TRX-Manager was created based upon the success of Soft990 for MS-DOS and FT-Manager for Yaesu. Some users helped me in improving the software and gave me new ideas that resulted in TRX-Manager. Communication with users has been a real pleasure for all.

I must pay homage to my wife Evelyne, for her patience and thank my children Claire, Camille and Estelle; TRX-Manager took a lot of family time!

I also offer special thanks to all of the testers:

Adriaan PE1KEL Digi Modes
Adrian 5B4AIY (Juma TRX2)
Art AB4RL (Argonaut V)
Arturo EA5AKT (Spanish translation)
Barry AE4RG (FT-920)
Barry W4WB (FT-817)
Ben N6FM (Satellite, IC-7000,FT-450)
Bertrand F5NTS (VR-5000)
Bill WD8ARZ (FT-1000MP)
Bill WB6JAR (Web Server)
Bob KI2L (FT-2000)
Bruce K6ZB (IC-7600)
Burkhard DL1Ik (TS-590)
Charlie W2TV (Terminal & DX Cluster)
Chuck WS1L (Orion)
Dale WB9ADB (IC-R75)
Dave N7BHC (FT-100)
David GW3WCV(TS-590)
David Sayles (NRD-535)
Denis F6GKQ (FT-990 ROM 1.2)
Dennis WN4AZY (IC-735)
Didier F8BKD (DXCC, Award)
Don WB8MKH (TS-790)
Doug VA3CR (FT-1000MP DX-Atlas)
Doug WA2DX (FT-2000)
Dwayne VE7AJI (FT-980)
Dwight K2YT (Omni VII)
Eike DM3ML (German translation)
Erik SM0EEH (Remote)
Farley N4AAN (TS-680)
Frank W6NEK (FTDX-5000)
Fred KE2QR
George G7MKT (FRG-100)
George K3GV (Telnet)
Gérard F6CVM (K3)
Glenn KG7IL (FT-757GXII)
Greg AB7R (Elecraft K2)
Hal K4HW (IC-R9000)
Henry WP4SK (FTDX9000)
Howard VE2AED (TS-870)
Isaac 4Z1AO (TS-850)
Jan LA1XJA (IC-9100)
Jean Luc F8PKC (FT-767GXCW Interface)
Jeffrey KC2GUC (JST-245)
Jim N4ULE (Jupiter)
Jimmy WB8NBI (TS-570)
Joe K1JN (FT-1000MP)
Joel Allamy (VR-5000)
John VE3NFK (Translation, OS, Log Book FT-817 TS-2000 K3) and a lot of other tests during many years!
John N3WT (Winkey)
John KI4JPL (Orion)
Kees (NRD-535)
Lance W7GJ (CQ Sequencer andTX Interrupt)
Lou KF6LOL (FT-857)
Lutz W4/DH7LK (Orion)
Lynn KB0LRB (FT-847)
Magnus SM6VFJ (Swedish)
Marc André VE2JFK (FT-890)
Marek SP7DQR (Translation in Polish)
Marko OH7KD (ACOM600S)
Michael G4OTY (FT-736)
Mike KM4ID (FT-767GX)
Mike KS4JU (FT-847)
Mitch Dj0QN (FT-2000)
Morris G3TRV (JST-245)

Nikos SV3KH, George SV8RX (Remote)
Olivier F14988 (NRD-545)
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Rich K0FUN (Ten-TecFT-817 TS-2000)
Richard N1VXW (IC-756PRO)
Rocco WU2M (EDSP)
Roger KR4WS (Eagle)
Rune LA7THA (ACOM2000)
Spiros SV8CS (IC-756 IC-821 Remote)
Stan LZ1IU (ACOM2000)
Stéphane HB9VJF (FT-757GXII)
Stuart G4XSH (FT-747)
Stu N7QJP (FT-847)
Thierry F5SIB (FT-1000MP)
Tim N9IW (K3)
Tom K2ESE (Joystick , FTDX5000)
Tom VA3TY (RX320)
Tony K2YPT (CW Interface)
Uwe DL4ZBB (IC-7700)
Van W4GIW (K3)
Vic N5YY (FT-450)
Vincent N0UA (IC-756PRO2)
Werner DL2RD (HP S-Meter)

Without their contribution by exchanging e-mails and software via the internet, TRX-Manager would not have the great success that it does...

TRX-Manager's CD

WOTA

TRX-Manager supports WOTA. Please refer to the WOTA web site located athttp://www.wotadb.org and the FAQ page before using this facility.

As stated on the site, **Who's On the Air** Database (WOTA) is a great solution! Find out who is on the air, the band and frequency they are operating on, and their location by Country, State, County, Grid, Lat/Long.

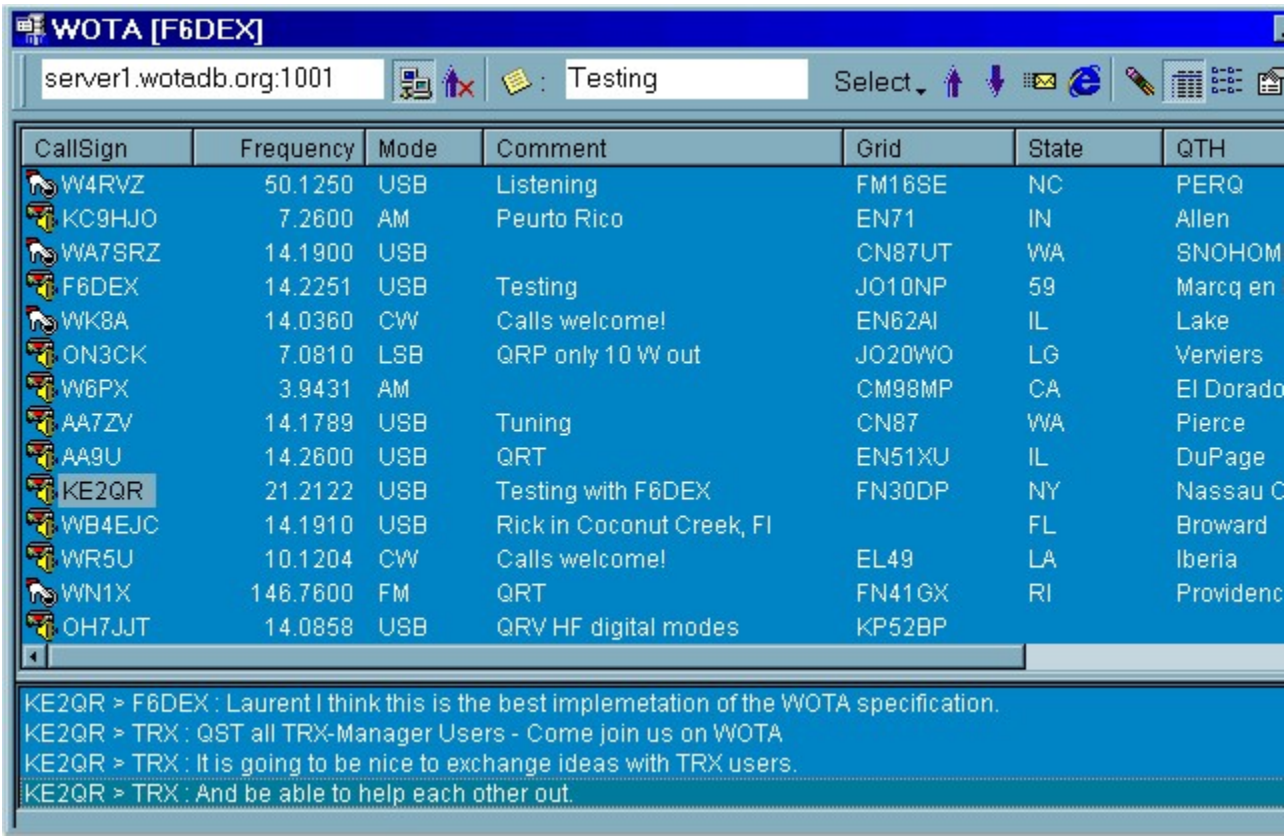
TRX-Manager implements the WOTA protocol. Most of the data is derived from the **Location** tab on the **Preferences** panel. Review the fields for accuracy (If you are operating in the United States, the **QTH** field should contain your county).

The specification includes a messaging protocol. You can send messages to other operators (point to point) or to a group (broadcast to all subscribers of that group). TRX-Manager lets you subscribe to multiple groups.

Quick launch

Open the WOTA window from the **File/WOTA**submenu and connect to the WOTA server by activating the connection button . When the status bar indicates that you are **Connected**, the upper window will fill with stations connected to the WOTA server. If upload is NOT disabled (according to the state of the **NO Upload**button), you status will be uploaded almost immediatly and your Callsign will appear in the list. The list will change as stations modify their data (frequency, comments, operating state, etc.).

You may sort the list by clicking on a column header. Use the **Comment** field to set a comment (Use the **Select** button to use a pre-defined comment). Next, click the **Upload**arrow . Your information is sent to the WOTA server and reflected in the List.


WOTA [F6DEX]
server1.wotadb.org:1001
Testing
Select
CallSign Frequency Mode Comment Grid State QTH
W4RVZ 50.1250 USB Listening FM16SE NC PERQ
KC9HJO 7.2600 AM Peurto Rico EN71 IN Allen
WA7SRZ 14.1900 USB CN87UT WA SNOHOM
F6DEX 14.2251 USB Testing JO10NP 59 Marcq en
WK8A 14.0360 CW Calls welcome! EN62AI IL Lake
ON3CK 7.0810 LSB QRP only 10 W out JO20WO LG Verviers
W6PX 3.9431 AM CM98MP CA El Dorado
AA7ZV 14.1789 USB Tuning CN87 WA Pierce
AA9U 14.2600 USB QRT EN51XU IL DuPage
KE2QR 21.2122 USB Testing with F6DEX FN30DP NY Nassau C
WB4EJC 14.1910 USB Rick in Coconut Creek, Fl FL Broward
WR5U 10.1204 CW Calls welcome! EL49 LA Iberia
WN1X 146.7600 FM QRT FN41GX RI Providenc
OH7JJT 14.0858 USB QRV HF digital modes KP52BP
KE2QR > F6DEX : Laurent I think this is the best implemetation of the WOTA specification.
KE2QR > TRX : QST all TRX-Manager Users - Come join us on WOTA
KE2QR > TRX : It is going to be nice to exchange ideas with TRX users.
KE2QR > TRX : And be able to help each other out.

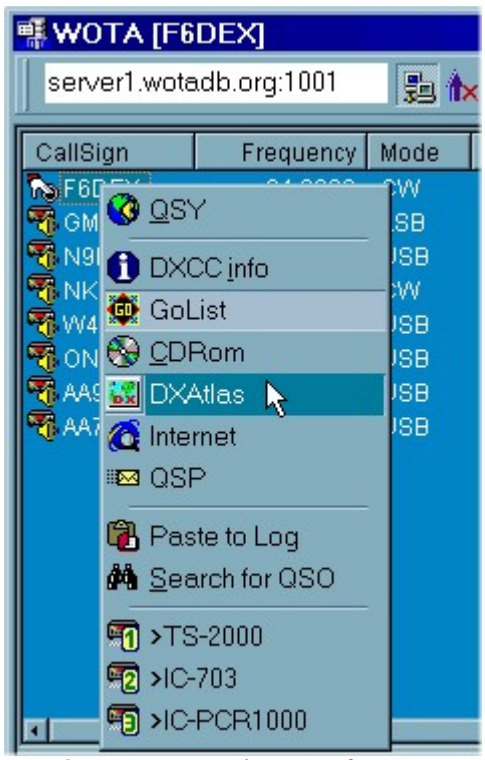
Displayed data

Stations connected to the server are displayed in the upper window of the WOTA panel. Messages are displayed in the lower window. Use the splitter bar to adjust the size of each window.

Double click on a Callsign in the upper window to QSY, or select a Callsign and open the context menu for additional options. If you click on a Callsign or cursor through the upper window, data specific to that station is displayed in the status bar.

Icons give the status as follow (see WOTA web site for more information): **Tuning**- **Listening**- **Running**.

You may list all connected stations at any time using the **List**button . However, the List command requires you upload at least one status.



Context menu provides various functions

A description of the message window is provided below. Refer to **Sending/Receiving messages** and **Group messages**

Tracking a Callsign is possible using the DX-Tracking function.

Uploaded data

Data is sent to the WOTA server (1) when you connect to the database, (2) at five-minute intervals or (3) on demand. The following fields are sent to the server.

- your **Callsign**
- your Operating **frequency** and **mode**
- your **Comment** (you may **add** or **remove** this comment to/from your favorite comments from the **Select** menu)
- your geographical data: **Grid**, **State** (PAS), **QTH** (SAS), **Longitude** and **Latitude.** (This data originates from the **Software/Location** preference panel. Check the accuracy of this data. You can view your position on a high precision map located at **http://71.198.184.113/newwota/WotaMap.aspx**)
- your **software** and version (TRX-Manager!)
- your **CQ** and **ITU** zones
- your Message **Groups**

If you change any of these data fields after you are connected, you may force an upload by using the **Upload** button (**do not abuse**).

(*) Mode is transferred as a comment using the ADIF format. Not all programs support Mode.

Settings

Some settings can be defined from the **WOTA's Preference** dialog box :

- your **Callsign** (only if you use an unregistered version of the program). Please note TRX-Manager always uses the registered callsign at startup,
- the comment to send when you **disconnect**

- the groups (**group messaging**) you subscribe to,
- a Group filter and a Band filter (use DX-Cluster settings)
- options to delete spots older than a specified delay or spots with a specific string in Comment
- echo for your own messages
- a favorite **URL**.

Receiving & sending message

Messages are displayed in the lower window. TRX-Manager plays the **DX-Tracking/WOTA** WAV file when a message is received.

Use the message dialog box to send a message. Type a Callsign or a Group in the **QSP >** field. There are a few ways to open the message dialog box:

- click the **QSP** button
- select a station from the upper list (single click) and select QSP from the context menu,
- double click on a received message,
- cursor to a received message using the up and down keys and press **ENTER**

You can remove incoming messages by selecting the message and pressing the **Delete** key.

Group messaging

You subscribe to groups by listing them in the WOTA's Preferences dialog box. TRX-Manager sends them to the WOTA server when you Connect. For example, if you specify **ALL WOTA TRX** you will receive messages sent by any other users who selected a member in that group. The WOTA organization recommends you subscribe to **SOS ALL**. Additionally, please subscribe to TRX. This group will be of interest to those of us using TRX-Manager.

Note: you can create any group and you can change your subscriptions any time during the session but you must use the Upload arrow to send your changes to the WOTA server.